

ICOM

# SERVICE MANUAL

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COMMUNICATIONS RECEIVER

**IC-R8500**

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## INTRODUCTION

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This service manual describes the latest service information for the **IC-R8500 COMMUNICATIONS RECEIVER** at the time of publication.

VERSION NO.	VERSION	SYMBOL
#02	U.S.A.	USA
#03	Europe	EUR
#05	France	FRA

To upgrade quality, any electrical or mechanical parts and internal circuits are subject to change without notice or obligation.

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## DANGER

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**NEVER** connect the receiver to an AC outlet or to a DC power supply that uses more than 16 V. This will ruin the receiver.

**DO NOT** expose the receiver to rain, snow or any liquids.

**DO NOT** reverse the polarities of the power supply when connecting the receiver.

**DO NOT** apply an RF signal of more than 20 dBm (100 mW) to the antenna connector. This could damage the receiver's front end.



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## ORDERING PARTS

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Be sure to include the following four points when ordering replacement parts:

1. 10-digit order numbers
2. Component part number and name
3. Equipment model name and unit name
4. Quantity required

**<SAMPLE ORDER>**

1130007700 S.IC BU4094BCF IC-R8500 PLL UNIT 5 pieces  
8810009030 Screw OH M3 x 8 ZK IC-R8500 Top cover 10 pieces

Addresses are provided on the inside back cover for your convenience.

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## REPAIR NOTES

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1. Make sure a problem is internal before disassembling the receiver.
2. **DO NOT** open the receiver until the receiver is disconnected from its power source.
3. **DO NOT** force any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated tuning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the receiver is defective.
6. **READ** the instructions of test equipment thoroughly before connecting equipment to the receiver.

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# SECTION 1 SPECIFICATIONS

- Frequency coverage:

Version	Frequency coverage (MHz)
U.S.A	0.10000– 823.99999
	849.00001– 868.99999
	894.00001–1999.99999*
Europe Australia	0.10000–1999.99999*
France	0.10000– 87.50000
	108.00000–1999.99999*

\*Specifications guaranteed 0.1–1000 and 1240–1300 MHz.

- Mode : SSB (USB, LSB)  
CW (Normal, Narrow\*)  
AM (Wide, Normal, Narrow)  
FM (Normal, Narrow)  
WFM
- \*Optional FL-52A is required
- Number of memory: 1000 memory channels plus 20 scan edge channels and 1 priority channel
- Antenna connector: below 30 MHz SO-239 (50 Ω)  
Phono; RCA (500 Ω)  
above 30 MHz Type-N (50 Ω)
- Usable temperature: –10 °C to +50 °C; +14 °F to +122 °F range
- Frequency stability: below 30 MHz  $\pm$  100 Hz ( $\pm$  20 Hz\*)  
above 30 MHz  $\pm$  3 ppm ( $\pm$  0.6 ppm\*)  
\*When the optional CR-293 is installed.
- Tuning steps : 10, 50, 100 Hz or 1, 2.5, 5, 9, 10, 12.5, 20, 25, 100 kHz or 1 MHz or Programmable (0.5–199.5 kHz/0.5 kHz step)
- Power supply requirement : 13.8 V DC  $\pm$  15 % (negative ground) or domestic AC with AD-55/A/V
- Current drain (at 13.8 V DC) : Stand-by 1.8 A  
Max. audio 2.0 A
- Dimensions : 287 (W)  $\times$  112 (H)  $\times$  309 (D) mm  
11.3 (W)  $\times$  4.4 (H)  $\times$  12.2 (D) in (projections not included)
- Weight : 7.0 kg; 15.4 lb
- Receive system : Superheterodyne system
- Intermediate frequencies

Frequency band (MHz)	1st (MHz)	2nd (MHz)	3rd (kHz)
0.1– 29.99999	48.8	10.7	455*
30.0– 499.99999	778.7	10.7	455*
500.0–1024.99999	266.7	10.7	455*

Note: Convertor system is adopted above 1025 MHz.

Using local freq. of 500, 1000 or 1010 MHz.

\*Except WFM

- Sensitivity :

Frequency band (MHz)	Mode					
	898/CW	AM	AM-N	AM-W	FM	WFM
0.1– 0.49999	1.0 $\mu$ V	6.3 $\mu$ V	–	–	–	–
0.5– 1.79999	2.0 $\mu$ V	13.0 $\mu$ V	–	–	–	–
1.8– 1.99999	0.25 $\mu$ V	3.2 $\mu$ V	2.5 $\mu$ V	–	–	–
2.0– 29.99999	0.2 $\mu$ V	2.5 $\mu$ V	2.0 $\mu$ V	–	0.5 $\mu$ V*	–
30.0– 999.99999	0.32 $\mu$ V	2.5 $\mu$ V	2.0 $\mu$ V	3.2 $\mu$ V	0.5 $\mu$ V	1.4 $\mu$ V
1240.0– 1300.00000	0.32 $\mu$ V	2.5 $\mu$ V	2.0 $\mu$ V	3.2 $\mu$ V	0.5 $\mu$ V	2.0 $\mu$ V

Note: SSB, CW, and AM modes are measured at 10 dB S/N; FM and WFM modes are measured at 12 dB SINAD.

\* 0.5  $\mu$ V is guaranteed in higher than 28 MHz for FM mode.

- Squelch sensitivity :

1.8–29.99999 MHz (threshold/tight)	
SSB, CW, AM-N	10 $\mu$ V/320 mV
AM, AM-W	0.5 $\mu$ V/320 mV
28–29.99999 MHz (threshold/tight)	
FM	0.5 $\mu$ V/320 mV
30–1000, 1240–1300 MHz (threshold/tight)	
FM, AM, AM-W	0.4 $\mu$ V/320 mV
WFM, SSB, CW, AM-N	4.5 $\mu$ V/320 mV

- Selectivity :

WFM	More than 150 kHz/– 6 dB
FM, AM-W	More than 12 kHz/– 6 dB
FM-N, AM	More than 5.5 kHz/– 6 dB
AM-N, SSB, CW,	More than 2.2 kHz/– 6 dB
CW-N (option)	More than 0.5 kHz/– 6 dB

- Spurious and image rejection ratio

1.8–29.99999 MHz	More than 60 dB
30–1000, 1240–1300 MHz	50 dB (typ.)

- Audio output power: More than 2.0 W at 10 % (at 13.8 V DC) distortion with an 8  $\Omega$  load

- IF shift variable : More than  $\pm$  1.2 kHz range

- External speaker : 2-conductor 3.5 (d) mm (1/8") / 4–8  $\Omega$  connector

- RS-232C connector: D-subs 25

- CI-V connector : 2-conductor 3.5 (d) mm (1/8")

- 10.7 MHz IF out connector : Phono; RCA (50  $\Omega$ )

- AGC connector : Phono; RCA

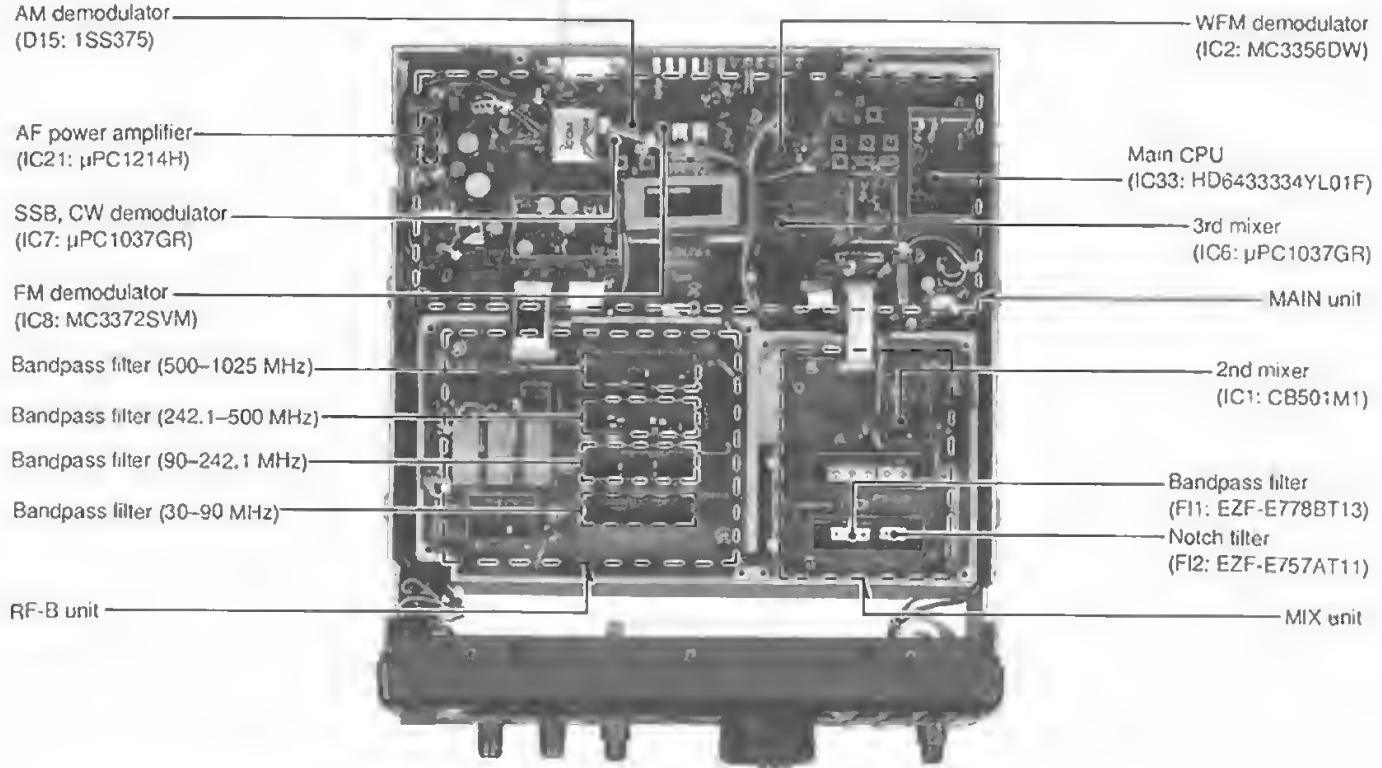
- REC connector : 2-conductor 3.5 (d) mm (1/8")

- REC REMOTE connector : 2-conductor 3.5 (d) mm (1/8")

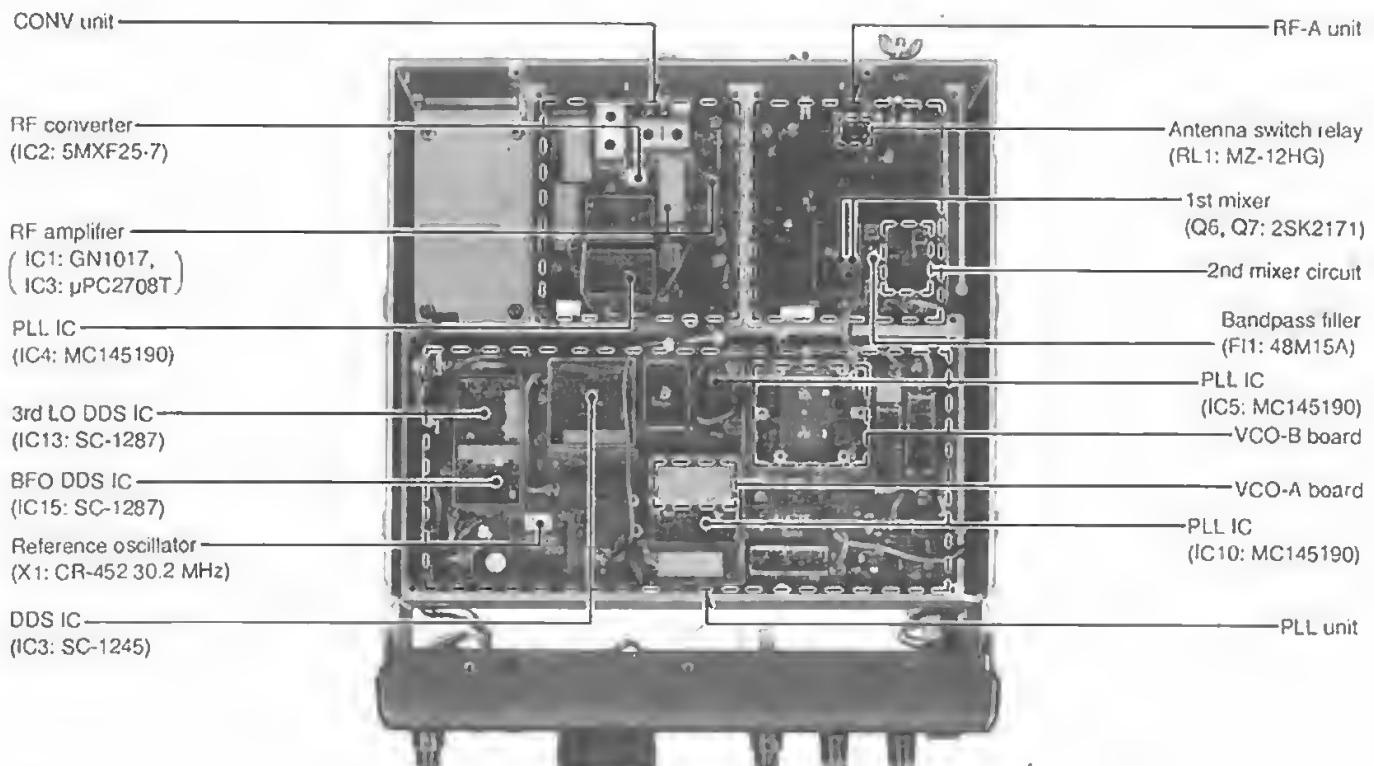
- PHONES connector : 3-conductor 6.35 (d) mm (1/4")

## SECTION 2 INSIDE VIEWS

### • MAIN, RF-B AND MIX UNITS



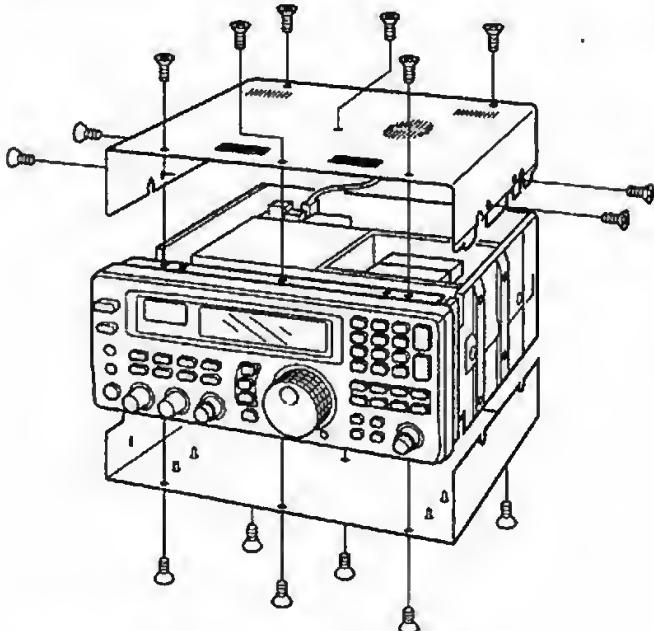
### • PLL, CONV AND RF-A UNITS



## SECTION 3 DISASSEMBLY AND OPTION INSTALLATIONS

### 3-1 DISASSEMBLY INSTRUCTIONS

#### • TOP AND BOTTOM COVERS

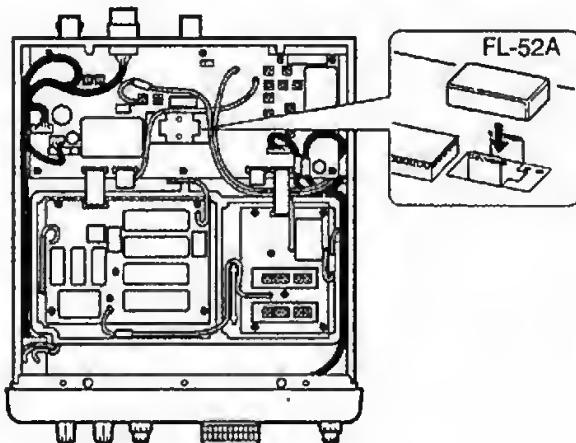


- ① Unscrew 6 screws from the receiver's top and 4 screws from the sides, then remove the top cover.
- ② Turn the receiver upside down.
- ③ Unscrew 6 screws from the bottom cover, then remove the bottom cover.

### 3-2 OPTION INSTALLATIONS

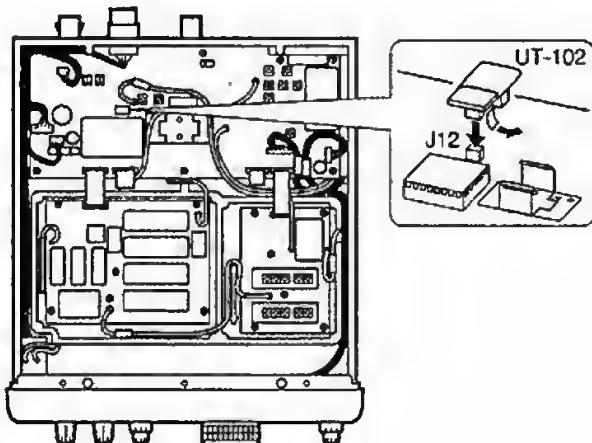
#### • FL-52A CW NARROW FILTER

- ① Remove the top cover as shown above.
- ② Connect the FL-52A as shown in the diagram below.
  - Make sure it is connected in the proper orientation.
  - Attached nuts on the FL-52A are not necessary. If you want to install the filter more securely, open the MAIN unit, then use the nuts on the bottom of the MAIN unit.
- ③ Replace the top cover.

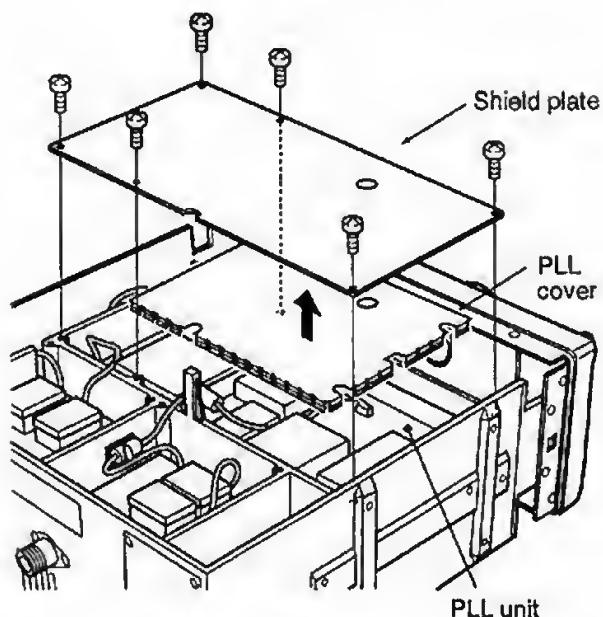


#### • UT-102 VOICE SYNTHESIZER UNIT

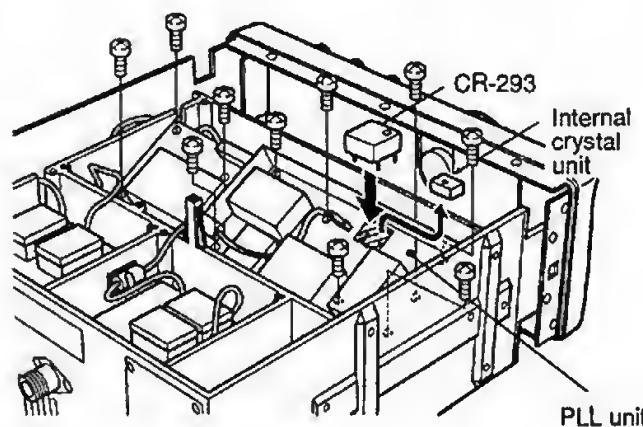
- ① Remove the top cover as shown above.
- ② Remove the protected paper attached to the bottom of the UT-102 to expose the adhesive strip.
- ③ Connect UT-102 as shown in the diagram below.
- ④ Replace the top cover.



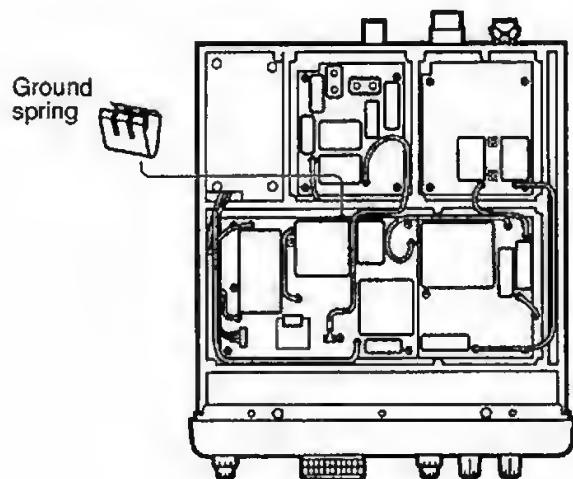
• CR-293 HIGH STABILITY CRYSTAL UNIT



- ① Remove the bottom cover as shown in the previous page.
- ② Unscrew 6 screws as shown in the diagram, then remove the shield plate and PLL cover.



- ③ Unscrew 10 screws from the PLL unit, then open the unit to expose the bottom.
- ④ Unsolder the feet of the internal crystal unit, then remove it.
- ⑤ Place the CR-293 in the space available as shown in the diagram, then solder its feet into place (6 points).
- ⑥ Adjust the reference frequency using a frequency counter.



- ⑦ Replace the ground spring to its original position.
- ⑧ Return the PLL cover, shield plate and bottom cover to their original positions.

NOTE: The CR-293 is an oven-type crystal unit, and the specified frequency stability described above is guaranteed 1 min. after power ON.

## SECTION 4

## CIRCUIT DESCRIPTION

### 4-1 RECEIVER CIRCUITS

#### 4-1-1 RF CONVERTOR CIRCUIT (CONV UNIT)

The RF convertor circuit converts 1025–1999.99999 MHz RF signals to 200–989.99999 MHz RF signals.

##### (1) 30.00000–1024.99999 MHz signals

RF signals from the antenna connector (J1) pass through the switching relays (RL1, RL2) to bypass the RF convertor circuit. The bypassed RF signals either bypass or are passed through the RF attenuator circuit (R17–R19, R25–R27) then applied to the RF-B unit via J3.

##### (2) 1025.00000–1999.99999 MHz signals

RF signals from the antenna connector (J1) are applied to the RF amplifier circuit (IC1, IC3) via the switching relay (RL1) and tunable high-pass filter (D3–D5, D20, D21, L2–L4). The amplified signals are mixed with convertor LO signals at the RF convertor circuit (IC2) to produce 200.00000–989.99999 MHz RF signals. The converted RF signals are applied to the RF-B unit via J3 after bypassing or passing through the attenuator circuit.

The convertor PLL circuit (IC6: VCO, IC7: PLL IC) generates a 1000 or 1010 MHz LO signal and applies them to the convertor circuit directly or divides them by 2 at IC8.

##### • Convertor LO signals

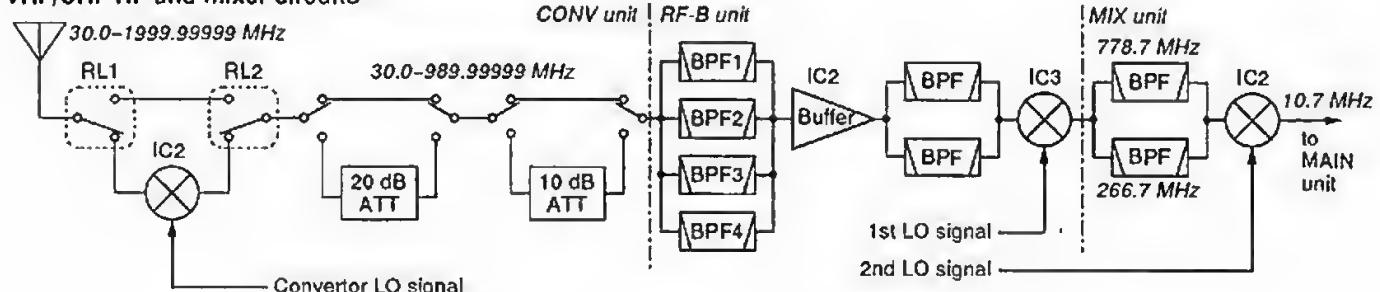
Receive frequency	Convertor LO frequency
1025–1199.99999 MHz	500 MHz
1200–1989.99999 MHz	1000 MHz
1980–1999.99999 MHz	1010 MHz

#### 4-1-2 RF ATTENUATOR CIRCUIT (CONV UNIT)

The attenuator circuit attenuates the signal strength up to 30 dB to protect the RF amplifier from distortion when excessively strong signals are received.

The RF attenuator circuit consists of 2 separate attenuator circuits connected in series. The 1st stage of the RF attenuator circuit (R17–R19) provides 20 dB attenuation; the 2nd stage (R25–R27) provides 10 dB attenuation via a "π" type attenuator.

##### • VHF/UHF RF and mixer circuits



#### 4-1-3 VHF/UHF RF CIRCUIT (RF-B UNIT)

The RF circuit amplifies the received signals within the range of frequency coverage and filters out-of-band signals.

The RF circuit consists of 4 bandpass filter circuits with an RF amplifier for each.

The received signals from the CONV unit are passed through to the tunable bandpass filter via the switching relay (RL1), then amplified at the RF amplifier circuit. The amplified RF signals are again passed through another bandpass filter to suppress out-of-band signals. The filtered signals are amplified at the other RF amplifier circuit (IC3), then applied to the 1st mixer circuit after passing through the low-pass or bandpass with tuned notch circuit.

The tunable bandpass filters employ varactor diodes to tune the center frequency of the RF passband for wide bandwidth receiving and good image response rejection. These diodes are controlled by the CPU (MAIN unit, IC33) via the voltage amplifier circuit (IC2).

A Ga-As FET is used for the RF amplifiers (Q1–Q4) to provide high sensitivity within wide-band coverage, and also to provide 10 dB amplifying gain.

##### • Tunable bandpass filter and RF amplifier

Receive frequency (MHz)	BPF select signal	Varactor diodes	RF amp.
30.0– 89.99999	BPF1	D3, D4	Q1
90.0– 242.09999	BPF2	D9–D12	Q2
242.1– 499.99999	BPF3	D15, D18, D33, D34	Q3
500.0–1024.99999	BPF4	D19–D23	Q4

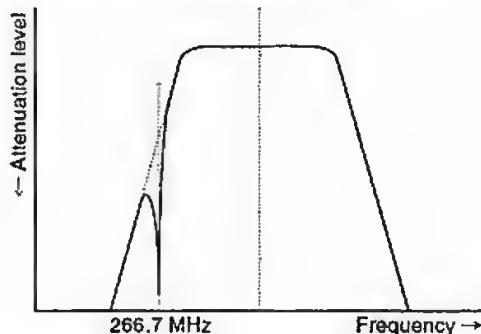
#### 4-1-4 TUNED NOTCH CIRCUIT (RF-B UNIT)

The tuned notch circuit activates while RF signals higher than 500 MHz are received. The circuit prevents the 1st LO signal from entering the antenna connector and also reduces IF disturbance.

The tuned notch circuit (D29–D32, L51–L54, L74) is designed between the high-pass (L82, C166–C168) and low-pass filter (L55, L56, C96–C98, C100). The high-pass filter reduces IF disturbance (266.7 MHz), and the tuned notch and low-pass filter circuits prevent the 1st LO signal from entering the antenna connector.

Varactor diodes are employed at the tuned notch filter circuit to control the center frequency of the IF signal, and are controlled by the CPU (MAIN unit, IC33) via the current amplifier circuit (IC7a).

- Tuned notch filter characteristics



#### 4-1-5 VHF/UHF 1ST MIXER CIRCUIT (RF-B UNIT)

The 1st mixer circuit converts the received RF signals to a fixed frequency of the 1st IF signal with a PLL output frequency. By changing the PLL frequency, only the desired frequency will pass through the bandpass filters at the next stage of the 1st mixer.

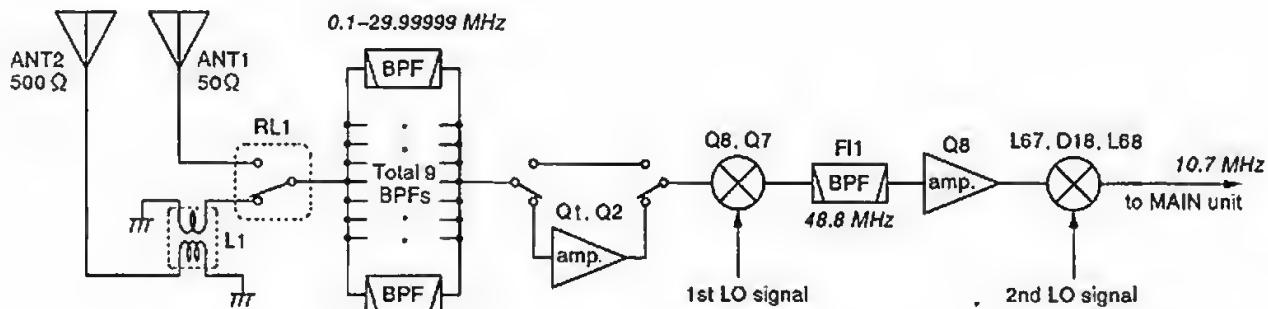
The filtered RF signals are mixed with 1st LO signals at the 1st mixer circuit (IC4, pin 3) to produce a 778.7 or 266.7 MHz 1st IF signal. The 1st IF signal is output from pin 5, and passed through the low-pass filter circuit (L75-L77, C141-C145) to suppress unwanted harmonic components. The filtered 1st IF signal is applied to the MIX unit via J2.

The 1st LO signals are generated at the VCO-A circuit (VCO-A board, Q1, Q3), and are applied to the 1st mixer (IC4, pin 6) after being amplified at the LO amplifier circuit (IC6) via the V1LO line.

- 1st LO frequency and 1st IF frequency

Receive freq. [MHz]	1st LO freq. [MHz]	1st IF freq. [MHz]
30.0 – 89.99999	808.7 – 868.69999	778.7
90.0 – 242.09999	888.7 – 1020.79999	778.7
242.1 – 499.99999	1020.8 – 1278.69999	778.7
500.0 – 1024.99999	766.7 – 1291.69999	266.7

- HF RF and mixer circuits



#### 4-1-6 VHF/UHF 1ST IF AND 2ND MIXER CIRCUITS (MIX UNIT)

The 2nd mixer circuit converts the 1st IF signal to a 2nd IF signal.

The 1st IF signal from the RF-B unit is passed through the bandpass filter to suppress unwanted out-of-band signals.

The 778.7 MHz 1st IF signal is passed through the dielectric notch filter (F12) to obtain good image response rejection for the 21.4 MHz lower frequency from the receiving frequency after passing through the dielectric filter (F11).

And, the 266.7 MHz 1st IF signal is passed through the helical notch filter (L15) to obtain a good image response rejection for the 21.4 MHz lower frequency from the receiving frequency via the helical bandpass filter (L14).

The filtered 1st IF signal is mixed with 2nd LO signals at the 2nd mixer circuit (IC1) to produce a 10.7 MHz 2nd IF signal. The 2nd IF signal is applied to the MAIN unit via J4 after suppressing unwanted higher harmonic components at the low-pass filter (L9, L22, C25, C27).

The 2nd LO signals are generated at the VCO-B circuit (VCO-B board, Q1, Q3), and are applied to the 2nd mixer circuit after being amplified at the LO amplifier circuit (IC2).

#### 4-1-7 HF RF FILTER CIRCUIT (RF-A UNIT)

The RF filter circuit consists of an antenna switching circuit, 9 bandpass filters and an RF amplifier circuit.

IC-R8500 has 2 antenna connectors for the HF bands (ANT1 and ANT2); ANT1 employs an SO-239 connector with 50 Ω impedance and ANT2 employs a phono/RCA connector with 500 Ω impedance.

The RF signals from ANT1 (J2) are applied to the bandpass filter to suppress out-of-band signals via the antenna switching relay (RL1). However, the RF signals from ANT2 (J1) are passed through the step-down transformer (L1) to be converted into 50 Ω impedance when ANT2 is selected. Then the RF signals are applied to the bandpass filter.

The filtered RF signals are bypassed or applied to the RF amplifier circuit (Q1, Q2), depending on the status of the 10 dB attenuator. The RF amplifier circuit (Q1, Q2) provides 10 dB gain, therefore, the bypassed RF signal strength seems attenuated when the 10 dB attenuator is turned ON.

Then the RF signals from the switching diode (D17) are applied to the 1st mixer circuit.

• Bandpass filters

Receive freq. [MHz]	SW diode	BPF select signal	Components
0.1– 0.49999	D3	B1	L7, L8, C15–C17
0.5– 1.59999	D3	B2	L10, L11, C22–C25
1.6– 1.99999	D7	B3	L23, L24, C42–C44
2.0– 3.99999	D8	B4	L18–L20, C34–C39
4.0– 7.99999	D8	B5	L28–L29, C48–C51
8.0–10.99999	D9	B6	L31–L33, C54–C59
11.0–14.99999	D9	B7	L38–L38, C82–C87
15.0–21.99999	D10	B8	L41–L43, C70–C75
22.0–29.99999	D10	B9	L48–L49, C79–C84

#### 4-1-8 HF 1ST MIXER CIRCUIT (RF-A UNIT)

The 1st mixer circuit converts the RF signals to a desired 48.8 MHz 1st IF signal. In this way, the VCO-A circuit output frequencies are used for 1st LO signals after being amplified at the LO amplifier (IC2).

The received RF signals from the bandpass filter circuit are mixed with 1st LO signals at the 1st mixer circuit (Q6, Q7) after passing through the low-pass filter circuit (L59, C9B–C100). The mixed 1st IF signal is passed through the crystal filter (F11) to suppress out-of-band signals then amplified at the IF amplifier circuit (Q8).

The amplified 1st IF signal is applied to the 2nd mixer circuit.

• 1st LO frequency and 1st IF frequency

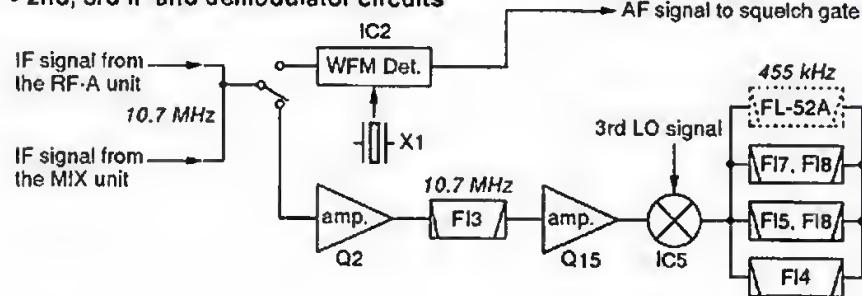
Receive freq. [MHz]	1st LO freq. [MHz]	1st IF freq. [MHz]
0.1–29.99999	48.9–78.79999	48.8

#### 4-1-9 HF 2ND MIXER CIRCUIT (RF-A UNIT)

The 2nd mixer circuit converts the 1st IF signal to the desired 10.7 MHz 2nd IF frequency. The 2nd LO signal is used in the mixer circuit to produce a 2nd IF frequency, and the signal is generated at the VCO-B circuit (VCO-B board, Q1, Q3) after being amplified at the LO amplifier (IC1).

The 1st IF signal from the IF amplifier (Q8) is applied to the double balanced mixer circuit (D18, L67, L68) to produce a 10.7 MHz 2nd IF signal. The 2nd IF signal is then passed through the low-pass filter circuit (L84, C145, C146), and is then applied to the MAIN unit via J5.

• 2nd, 3rd IF and demodulator circuits



#### 4-1-10 IF CIRCUIT (MAIN UNIT)

The 10.7 MHz 2nd IF signal from the MIX unit is applied to the mode switch (D3) after being amplified at the IF amplifier circuit (Q2). However, the 10.7 MHz 2nd IF signal from the RF-A unit is applied to the mode switch (D3) directly. The IF signal from the mode switch is then applied to a different circuit depending on the receiving mode.

(1) WFM mode

The 2nd IF signal from the mode switch (D3) is applied to the IF amplifier circuit (Q4). The amplified IF signal is passed through the bandpass filters (F11, F12) to suppress out-of-band signals. The filtered IF signal is then applied to the WFM demodulator circuit.

(2) Other modes

The 2nd IF signal from the mode switch (D3) is passed through the bandpass filter (F13) to suppress out-of-band signals, and then applied to the IF amplifier circuit (Q15). The amplified IF signal is then applied to the 3rd mixer circuit.

#### 4-1-11 3RD MIXER CIRCUIT (MAIN UNIT)

The 3rd mixer circuit mixes the 2nd IF signal and 3rd LO signal to produce a 455 kHz 3rd IF signal. The 3rd LO signal is generated at the DDS circuit (PLL unit, IC13) and is applied to the 3rd mixer circuit via the buffer-amplifier (Q28).

The 2nd IF signal from the IF amplifier circuit (Q15) is applied to the 3rd mixer circuit (IC6, pin 6), and also the 3rd LO signal (10.245 MHz) is applied to pin 8 of the IC. The mixed 3rd IF signal is output from pin 3, and is passed through different bandpass filters depending on the receiving mode and passband width. The filtered 3rd IF signal is applied to the matched demodulator circuit with the receiving mode via the IF amplifier circuit (Q16).

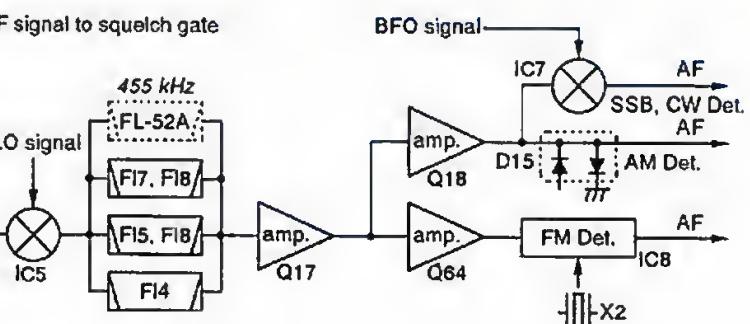
• Bandpass filter selection

Mode(s)	Bandpass filter(s)	Passband width
FM, AM-W	F17, F18	12 kHz
FM-N, AM	F15, F18	5.5 kHz
SSB, CW, AM-N	F14	2.2 kHz
CW-N	Optional FL-52A	500 Hz

#### 4-1-12 DEMODULATOR CIRCUIT (MAIN UNIT)

The demodulator circuit converts the 3rd IF signal into AF signals. 4 separate demodulator circuits are employed for each mode.

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### (1) WFM mode

The filtered 10.7 MHz 2nd IF signal from the bandpass filter (F12) is applied to the WFM demodulator circuit (IC2, pin 7). The applied IF signal is mixed with an LO signal which is generated by X1 to demodulate AF signals. The demodulated AF signals are output from pin 13, and are then applied to the squelch control gate (IC19d).

### (2) FM mode

The amplified 3rd IF signal at the IF amplifier (Q16) is again amplified at the other IF amplifier (Q64) and then applied to the FM detector circuit (IC8, pin 5). The applied 3rd IF signal is mixed with the signal generated by discriminator (X2) to demodulates AF signals. The demodulated AF signals are output from pin 9 and passed through the active filter circuit (IC32a) to suppress unwanted subaudible tone audio signals and lower noise components.

The filtered AF signals are applied to the squelch control gate (IC19c).

### (3) AM mode

The amplified 3rd IF signal from the IF amplifier (Q16) is again amplified at the other IF amplifiers (Q17, Q18). The amplified 3rd IF signal is then applied to the AM demodulator circuit (D15). The demodulated AF signals are applied to the squelch control gate (IC19b).

### (4) SSB and CW modes

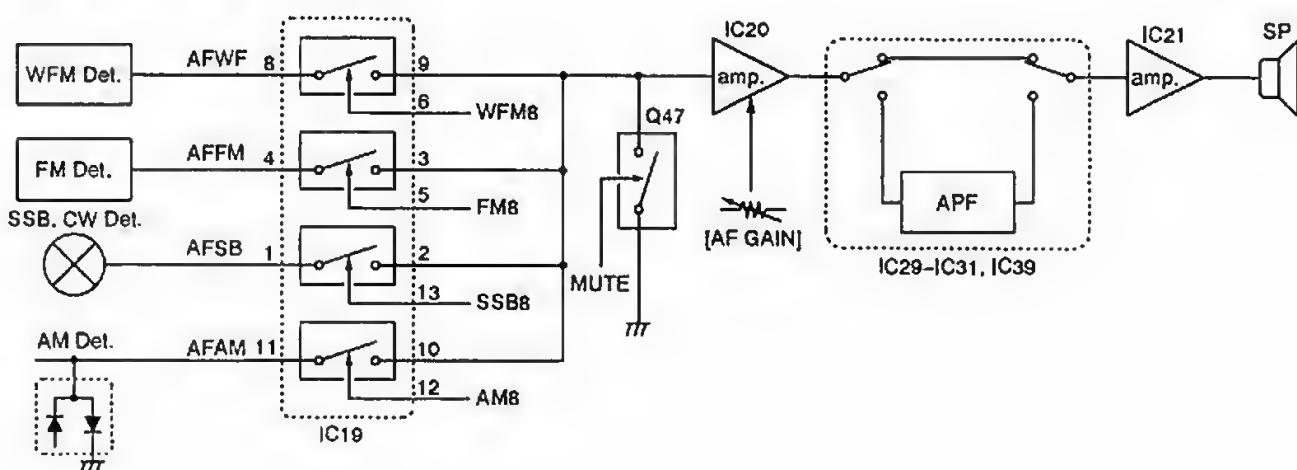
The amplified 3rd IF signal from the IF amplifier (Q18) is applied to the balanced mixer circuit (IC7) and mixed with BFO signals to demodulate AF signals. The demodulated AF signals are applied to the squelch control gate (IC19a).

The BFO signals are generated at the BFO circuit (PLL unit, IC15) and are applied to the balanced mixer circuit via the buffer-amplifier (Q31).

## 4-1-13 SQUELCH CONTROL CIRCUIT (MAIN UNIT)

The demodulated AF signals from the demodulator circuits are applied to the squelch control gate (IC19). This consists of 4 analog switches which are selected with a mode signal and squelch control setting from the CPU (IC33) via the expander IC (IC18). The switched AF signals are applied to the AF circuit.

### • Squelch and AF amplifier circuits



## 4-1-14 SQUELCH CIRCUIT (MAIN UNIT)

### (1) FM, FM-N, AM and AM-W modes

A squelch circuit cuts out AF signals when no RF signal is received or the S-meter signal is lower than the [SQUELCH] control setting level. By detecting noise components in the AF signals, the CPU switches the squelch control gate.

Some noise components in the AF signals from pin 9 of the FM IF IC (IC8) are applied to the noise filter section in the FM IF IC (pin 10). The filtered noise components are output from pin 11, and then applied to the noise amplifier circuit (IC9b). The amplified signals are rectified at the noise detector circuit (D16) and the detected voltages are applied to the CPU (IC33) via the NOAD line after being current-amplified at the current-amplifier circuit (IC4a).

The [SQUELCH] control level signal is applied to the CPU (IC33) via the sub-CPU (FRONT unit, IC1) as a reference voltage for comparison with the noise voltages. Also, an S-meter signal is applied to the CPU from the meter amplifier (IC9a). The CPU compares these signals, then outputs a control signal to the squelch control gate.

The FM IF IC detects noise components even in AM and AM-W modes for noise squelch control, and also the IF amplifier (Q18) is activated in FM and FM-N modes for S-meter and S-meter squelch functions.

### (2) WFM, SSB, CW and AM-N modes

The squelch circuit mutes AF output when the S-meter signal is lower than the [SQUELCH] control setting level.

### SSB, CW and AM-N modes

A portion of the 3rd IF signal from the IF amplifier (Q18) is converted into DC voltage at the AGC detector (Q27, D20) and the meter amplifier (IC9a). The amplified signal is applied to the CPU (IC33) via the SMAD line. The CPU outputs control signals to the squelch control gate when the S-meter signal is at a low level.

### WFM mode

The WFM demodulator (IC2) controls input voltage of the meter amplifier (IC9a, pin 2) via Q6 and the AGC line. The same circuit is used even in WFM mode with SSB, CW and AM-N modes.

#### 4-1-15 AF AMPLIFIER CIRCUIT (MAIN UNIT)

The AF amplifier circuit amplifies the demodulated AF signals to drive a speaker.

AF signals from the squelch control gate are pre-amplified at the AF amplifier (IC20) and are then applied to the AF power amplifier (IC21) after either passing through or bypassing the APF circuit (IC29-IC31, IC39). The power amplified AF signals are applied to the internal speaker via the [EXT SP] and [PHONE] jacks when no plugs are connected to the jacks.

The [AF GAIN] control signal is also applied to the AF pre-amplifier (IC20, pin 8) via the CPU (IC33) to control amplifying gain.

#### 4-1-16 NOISE BLANKER CIRCUIT (MAIN UNIT)

The noise blanker circuit detects pulse-type noises, and stops IF amplifier operation during detection.

A portion of the 3rd IF signal from the bandpass filter (FI3) is amplified at the noise amplifier circuit (Q9, IC5, Q11). The amplified signal is rectified at the noise detector circuit (D10) for conversion into DC voltage. The DC voltage is applied to the NB control circuit (Q12, Q13) to control the NB switch (Q14).

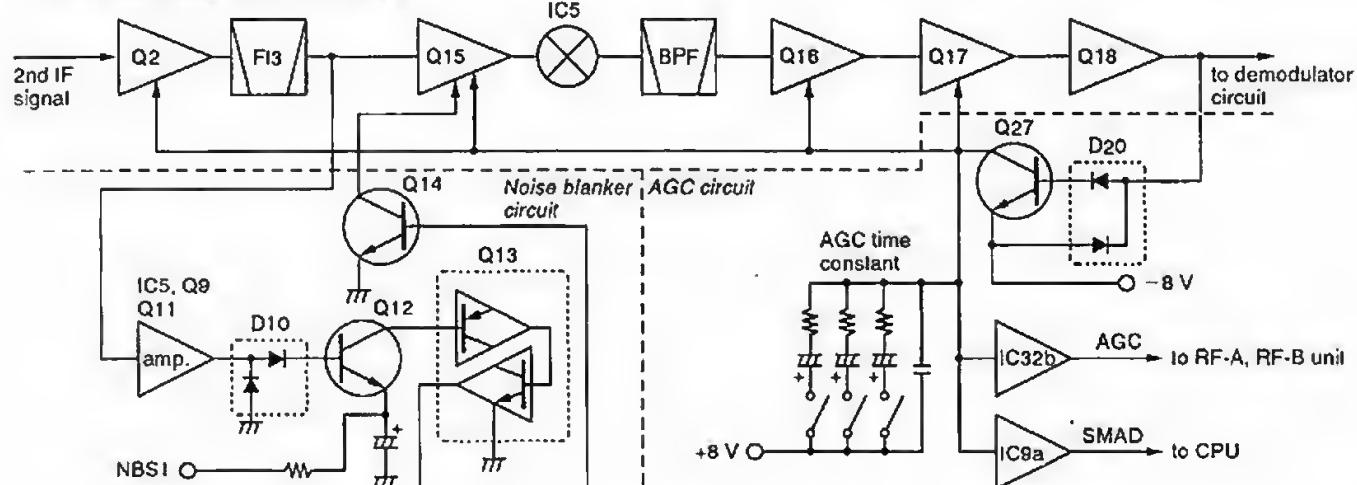
Some DC voltage is fed back to the noise amplifier circuit (IC5) via the DC amplifier (Q10). The DC amplifier function as an AGC circuit to reduce averaged noise. Therefore, the noise blanker function shuts off pulse-type noise only.

#### 4-1-17 AGC CIRCUIT (MAIN UNIT)

The AGC (Auto Gain Control) circuit reduces IF amplifier gain to keep the audio output at a constant level.

A portion of the 3rd IF signal from the IF amplifier (Q18) is applied to the AGC detector circuit (D20). The detected signal is applied to the AGC control circuit (Q20, Q21, Q25, Q27) and then applied to the IF amplifiers (Q2, Q4, Q15-Q17). The AGC voltage is also applied to the RF-A and RF-B unit via the current-amplifier circuit (IC32b). The current-amplified AGC signal is applied to the IF amplifier and AGC control circuit in the RF-A unit (IF amp.: Q8, AGC control: Q3), and the buffer-amplifier circuit in the RF-B unit (IC1a).

##### • Noise blanker and AGC circuits



When strong signals are received, the detected voltage increases and the output level of the AGC control circuit decreases. The AGC voltage is used as the bias voltage for the IF amplifiers, therefore, the IF amplifier gain is decreased.

AGC response time is controlled by changing the time constant at the AGC control line with resistors (R179, R180, R503) and capacitors (C134-C137). R179, R180, C134 and C135 are used for AGC slow, and R503, C136 and C137 are used for AGC fast mode's time constant. The time constant for AGC slow is connected to the AGC control line while AGC is set to slow. However, it's disconnected from the AGC control line, and the time constant for AGC fast is connected to the AGC control line while AGC is set to fast. Both time constants are disconnected from the AGC control line while scanning or when WFM or FM mode is selected for faster response than AGC fast mode.

#### 4-1-18 S-METER CIRCUIT (MAIN UNIT)

The S-meter circuit indicates the relative received signal strength while receiving and changes depending on the received signal strength.

A portion of the AGC signal is applied to the meter amplifier circuit (IC9a). The amplified signal is then applied to the CPU (IC33) as an SMAD signal to drive the S-meter.

The SMAD signal is also used for noise and S-meter squelch operation by comparison with the [SQUELCH] control setting level and receiving signal strength at the CPU.

#### 4-1-19 APF CIRCUIT (MAIN UNIT)

The APF (Audio Peak Filter) circuit boosts a specified frequency to pick up desired CW signals, etc.

When [APF] is turned ON, the AF signals from the squelch control gate (IC19) are applied to the APF circuit (IC29-IC31, IC39). The [APF] control adjusts the peak frequency within 200-1000 Hz. IC29 is a triple 2-channel analog switch IC and the AF signals are either passed through or bypass the APF circuit.

The APF circuit functions as a tone control while WFM, FM, AM or SSB mode is selected.

## 4-1-20 CENTER DETECTOR AND CENTER INDICATOR CIRCUITS (MAIN UNIT)

### (1) WFM and FM modes

A portion of the detected audio signals from the demodulator circuit (IC2 for WFM, IC8 for FM) are applied to the center detector circuit (IC4b). The applied audio signals are converted into DC voltage, and also amplified at the center detector. The output DC voltage is then applied to the CPU (IC33) as a CMAD signal for center indication and AFC (Auto Frequency Control) operation, and is also applied to the window-comparator (IC13) for center scan stop.

The output signal from the window-comparator is applied to the CPU as a STOP signal.

### (2) AM mode

A portion of the 3rd IF signal from the IF amplifier (Q18) is amplified at the buffer-amplifier circuit (Q65), and then converted into an IF phase signal at the AM center circuit (IC40c). The BFO signal is applied to the AM center circuit (IC40d) to be converted into a BFO phase signal after being amplified at the buffer-amplifier (Q66).

Both IF and BFO phase signals are applied to the phase detector circuit (IC41) to detect phase differences. The phase detector circuit outputs pulse-type signals according to the phase difference from pin 8, and the output signals are rectified at the rectifier section (D60). The rectified signal is then applied to the CPU (IC33) as a STOP signal via Q67 and Q68.

## 4-1-21 VSC CIRCUIT (MAIN UNIT)

The VSC (Voice Scanning Control) detects the AF signals during scanning and skips undesired signals such as unmodulated, beat and noise component signals.

A portion of the AF signals from the squelch gate (IC19) are applied to the VSC control circuit (IC10-IC12, Q30) after being amplified at O62. The amplified AF signals are amplified and limited at the two-step amplifier section (IC10) then the output signal is applied to the one-shot multi circuit (IC11) as a trigger signal. The one-shot multi circuit functions as an F-V convertor, and the output voltage is proportional to the number of pulses within the singular time.

The output signals from the one-shot multi circuit are passed through the low-pass filter (IC12a) to detect AF signals. The filtered signals are then applied to the window comparator (IC12b). The window comparator outputs a high level signal when the applied signals from the low-pass filter exceeds the reference voltage.

The output signal is applied to the CPU (IC33) as a VSC signal via IC11c.

## 4-2 PLL CIRCUITS

### 4-2-1 1ST LO PLL CIRCUIT (PLL UNIT)

The 1st LO circuit generates the 1st LO frequency, and the signals are applied to the 1st mixer circuit in the RF-A and RF-B units. The 1st LO circuit consists of a DDS, VCO-A circuits and PLL IC, etc.

#### (1) DDS loop circuit

The signal generated at the VCO circuit (O2, D1, D2) is

amplified at the buffer-amplifier (Q3) then applied to the DDS circuit (IC3). The DDS circuit generates digital signal using the applied signal as a clock frequency. The phase detector section in IC3 compares its phase with the reference frequency which is generated at the reference oscillator (X1; 30.2 MHz). IC3 outputs off-phase components as pulse signals via pins 52, 53.

The output pulses are converted into DC voltage at the loop filter circuit (Q44, Q45) and then applied to the VCO circuit to generate an approx. 6.5 MHz reference signal for the main loop circuit.

The D/A convertor (R10-R33), bandpass filter (F1) and buffer-amplifier (IC4) circuits are connected to the DDS output to convert the digital oscillated signals into smooth analog signals.

#### (2) Main loop circuit

The generated signal from the VCO-A circuit (VCO-A board, Q1, Q3) is buffer-amplified at the buffer-amplifier (IC6). The buffer-amplified signal is applied to the prescaler section in the PLL IC (IC5, pin 11) via the low-pass filter circuit (L74, L75, C263-C267). The applied signal from the VCO-A circuit is prescaled in the PLL IC based on the divided ratio (N-data) to produce approx. 50 kHz phase signals. The phase signals are applied to the phase detector section.

The signal from the VCO in the sub loop circuit is applied to the programmable divider section in the PLL IC (IC5; pin 20) to produce approx. 50 kHz reference phase signals. The reference phase signals are applied to the phase detector section.

The phase detector section compares 2 of the applied phase signals. The phase detected signals are passed through the charge pump section and then output from pin 6 of the PLL IC. The output signals are applied to the loop filter circuit (Q38, Q39, Q42, Q43) to be converted into DC voltage as a PLL lock voltage. The PLL lock voltage is applied to the VCO-A circuit via the VCO switch (IC20).

#### • VCO-A output frequency

Receive freq. [MHz]	VCO-A output freq. [MHz]	VCO	Multiplier action
0.1- 14.99999	391.20-510.399920	Q1	1/8
15.0- 29.99999	510.40-630.399920	Q3	1/8
30.0- 242.09999	404.35-510.399995	Q1	×2
242.1- 499.99999	510.40-639.349995	Q3	×2
500.0- 754.09999	383.35-510.399995	Q1	×2
754.1-1024.99999	514.40-645.849995	Q3	×2
1025.0-1199.99999	395.85-483.349995	Q1	×2
1200.0-1242.09999	489.35-510.399995	Q1	×2
1242.1-1499.99999	510.40-639.349995	Q3	×2
1500.0-1754.09999	383.35-510.399995	Q1	×2
1754.1-1989.99999	510.40-628.349995	Q3	×2
1990.0-1999.99999	623.35-628.349995	Q3	×2

### 4-2-2 2ND LO PLL CIRCUIT (PLL UNIT)

The 2nd LO PLL circuit generates a 256 MHz, 304.8 MHz or 768 MHz signal depending on the receiving frequency.

and consists of a PLL IC, VCO-B and loop filter circuits, etc. The output signal is applied to the 2nd mixer circuit in the RF-A or RF-B unit as a 2nd LO signal via the multiplier circuit.

The generated signal from the VCO-B (VCO-B board, Q1, Q3) is amplified at the buffer-amplifier (IC12) and is then applied to the prescaler section in the PLL IC (IC10, pin 11). The reference signal from the divider circuit (IC11; 15.1 MHz) is divided at the programmable divider section in the PLL IC. The output signals from these section are phase detected at the phase detector section, and then output from pin 6 of the PLL IC via the charge pump section.

The output signals are applied to the loop filter circuit (Q14, Q15) to converted into DC. The DC voltage is then applied to the VCO-B circuit.

#### • VCO-B output frequency

Receive freq. [MHz]	VCO-B output freq. [MHz]	VCO	Multiplexer action
0.1- 29.99999	304.8	Q1	1/8
30.0- 499.99999	788.0	Q3	-
500.0-1199.99999	256.0	Q1	-
1200.0-1499.99999	788.0	Q3	-
1500.0-1999.99999	258.0	Q1	-

### 4-2-3 CONVERTOR PLL CIRCUIT (CONV UNIT)

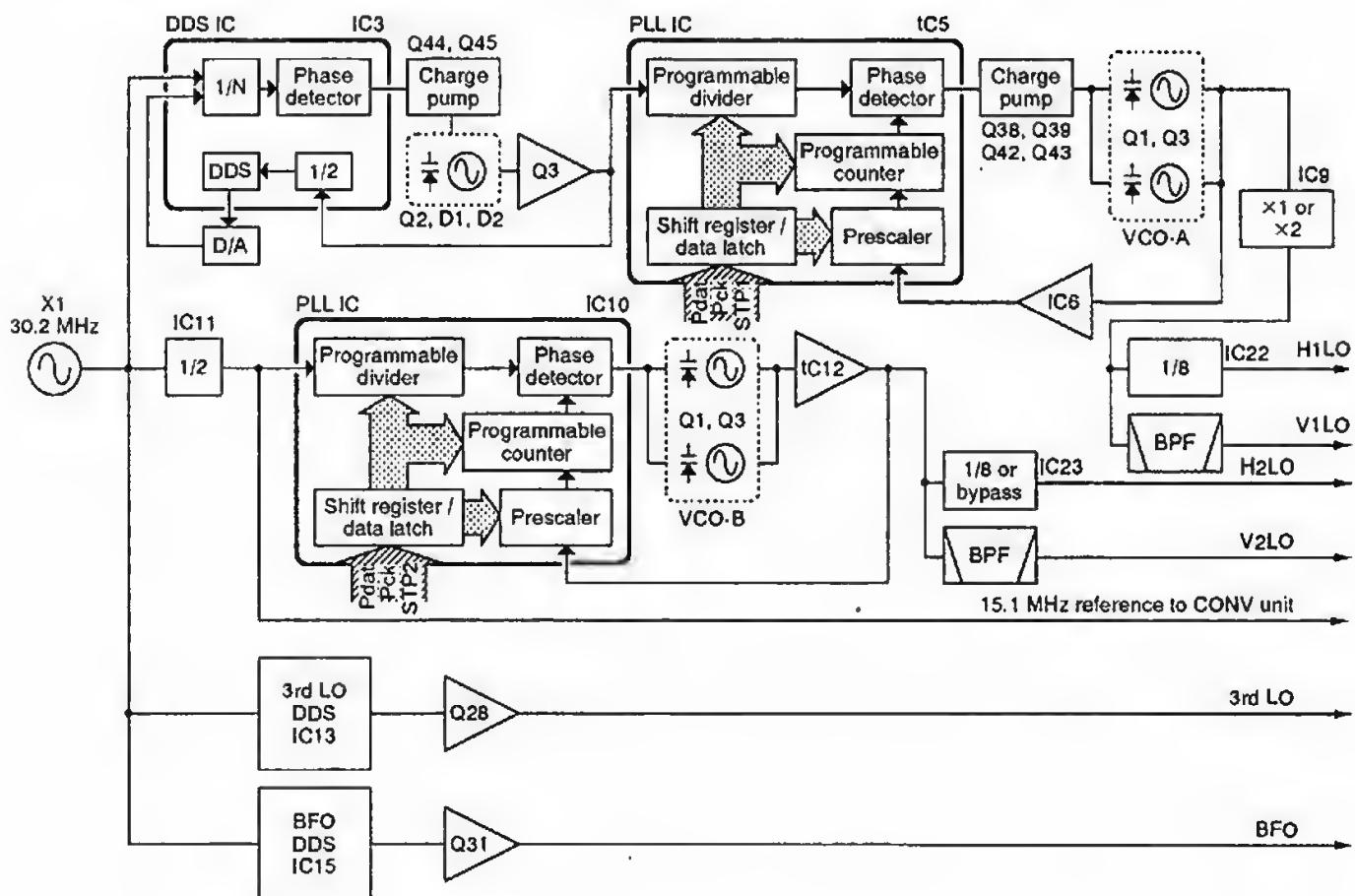
The generated signal from the converter VCO circuit (IC6) is amplified at the buffer-amplifier circuit (IC7) and then applied to the PLL IC (IC4) via the low-pass filter circuit (L29, L30, C76-C78). The filtered signal is applied to the prescaler section to produce an approx. 100 kHz phase signal. The reference signal from the PLL unit (15.1 MHz) is divided at the programmable divider section in the PLL IC, and the phase signals are applied to the phase detector section.

The output signals from the phase detector section are applied to the converter VCO circuit (IC6).

#### • Converter VCO output frequency

Receive freq. [MHz]	Converter VCO output freq. [MHz]	Divider action
1025.0-1199.99999	1000.0	1/2
1200.0-1989.99999	1000.0	bypassed
1990.0-1999.99999	1010.0	bypassed

#### • PLL circuits



## 4-3 POWER SUPPLY CIRCUITS

### 4-3-1 VOLTAGE LINES

Line	Description
ADHV, HV1	The voltage from an AC adaptor (AD-55).
HV2	The same voltage as the ADHV or HV1 line which is controlled by the [POWER] switch.
DOUT	Common 12.5 V converted from the HV2 line by the regulator circuit (MAIN unit, IC22).
DCIN	The same voltage as the DOUT line when the jumper connector is connected to the [DC 13.8 V], or the voltage from an external power supply.
LHV1	The same voltage as the DCIN line which is passed through the internal fuse (MAIN unit, F1).
LHV2	The same voltage as the LHV1 line which is controlled by the [POWER] switch.
13.8	The same voltage as the LHV2 line which is passed through the switching relay (MAIN unit, RL1).
+8	Common 8 V line converted from the 13.8 line by the 8 V regulator circuit (MAIN unit, IC23).
+5	Common 5 V line converted from the 13.8 line by the 5 V regulator circuit (MAIN unit, IC17).
L+5	Common 5 V line converted from the LHV2 line by the L+5 regulator circuit (MAIN unit, IC38).
+24	Common 24 V line converted from the 13.8 line by the DC-DC convertor circuit (MAIN unit, Q51, Q52, L46) and +24 regulator circuit (MAIN unit, IC25). The output voltage is applied to the CONV, RF-B and PLL units.
-8	Common -8 V line converted from the 13.8 line by the DC-DC convertor circuit (MAIN unit, Q51, Q52, L46) and -8 regulator circuit (MAIN unit, IC26). The output voltage is applied to the AGC and APF circuits, etc.
+16	Common 16 V line converted from the +24 line by the +16 regulator circuit (PLL unit, Q34, D20).
+8	Common 8 V line converted from the 13.8 line by the +8 regulator circuit (PLL unit, IC17).
+5	Common 5 V line converted from the 13.8 line by the +5 regulator circuit (PLL unit, IC16).
D+5	Common 5 V line converted from the 13.8 line by the D+5 regulator circuit (PLL unit, IC24).
MI5V	Receive 5 V line for RF signals above 30 MHz, which is converted from the +5 line by the MI5V regulator circuit (MAIN unit, Q35, Q36, D55). The output voltage is applied to the LO amplifier circuit(s) in the RF-B and MIX units.
HF5V	Receive 5 V line for RF signals below 30 MHz, which is converted from the +5 line by the HF5V regulator circuit (RF-A unit, Q13, Q17). The output voltage is applied to the LO amplifier circuits (RF-A unit, IC1, IC2).

## 4-4 PORT ALLOCATIONS

### 4-4-1 CPU (MAIN UNIT, IC33)

Pin number	Port name	Description
1	RES	Input port for reset signal.
9	POC	Outputs the switching relay (RL1) control signal.
10	MRXD	Input port for the sub CPU (DISP unit, IC1) data signal.
11	MTXD	Outputs data signal to the sub CPU (DISP unit, IC1).
13	VBSY	Input port for optional speech synthesizer busy signal. "High": During speech
19	Mdat	Outputs serial data signal.
20	Mck	Outputs serial clock signal.
21	VSTB	Outputs strobe signals to an optional speech synthesizer.
22-24	MST2 MST1 MST3	Outputs strobe signals to the output expander ICs in the MAIN unit (IC15, IC16, IC18).
25, 26	STBA STBC	Outputs strobe signals to the output expander ICs in the RF-A unit (IC3, IC4).
27	STBB	Outputs strobe signals to the output expander IC in the CONV unit (IC10).
28	STBE	Outputs strobe signals to the convertor PLL circuit (CONV unit, IC4).
30	L1AD	Input port for 1st LO PLL lock voltage.
32	SMAD	Input port for S-meter signal.
33	CMAD	Input port for center indicator signal.
34	NOAD	Input port for noise level signal.
35	STOP	Input port for scan stop signal.
37	LVDA	Outputs tunable bandpass filter control signal.
39	VSC	Input port for VSC detected signal.
40	BEEP	Outputs beep audio signals.
41	Pdat	Outputs serial data signal for the PLL circuit
46	AFDA	Outputs amplifying gain control signal to the AF pre-amplifier circuit (IC20).
48	A15	Input port for initial matrix.
49-55	A14-A8	Address bus lines for the EEPROM (IC34).
57-64	A7-A0	Address bus lines for the EEPROM (IC34).
65-68	D0-D3	Data bus lines for the EEPROM (IC34).
69-71	D4-D6	Output port for initial matrix.
72	D7	Data bus line for the EEPROM (IC34).
78	TXD	Outputs CI-V control signals.
79	RXD	Input port for CI-V control signals.

#### 4-4-2 SUB CPU (DISP UNIT, IC1)

Pin number	Port name	Description
1	APFV	Input port for the [APF] control.
9	RES	Input port for reset signal.
22	SCL	Outputs clock signal to the EEPROM (IC6).
23	SDA	Outputs data signal to the EEPROM (IC6).
24	DIM	Outputs dimmer control signal. "High": Bright
25	REC	Outputs REC REMOTE control signal. "High": While squelch is opened.
77-80	P10-P13	Outputs key matrix signal to the SW-B board.
81	MET	Outputs meter drive signals in 14 bit PWM wave.
82	MDA	Input port for the [DIAL].
83, 84	P16, P17	Outputs key matrix signal to the SW-A board.
86	MTXD	Input port for data signal from the CPU (MAIN unit, IC33).
87	MRXD	Outputs data signal for the CPU (MAIN unit, IC33).
88	MDB	Input port for the [DIAL].
90-96	PB0-PB6	Input ports for key matrix.
97	AN7	Input port for the [AF GAIN].
98	AN8	Input port for the [SQUELCH].
99	DELV	Input port for the [DELAY/SPEED].
100	SFTV	Input port for the [IF SHIFT].

#### 4-4-3 DDS ETC-LATCH (PLL UNIT, IC3)

Pin number	Port name	Description
68	FIL4	Outputs 768 MHz 2nd LO bandpass filter select signal.
69	FIL3	Outputs 256 MHz 2nd LO bandpass filter select signal.
70	VU	Outputs bandpass filter select signal. "Low": While receiving RF signals above 30 MHz.
71	HF	Outputs bandpass filter select signal. "Low": While receiving RF signals below 30 MHz.
72	VCO4	Outputs VCO (VCO-B board, Q3) select signal.
73	VCO3	Outputs VCO (VCO-B board, Q1) select signal.
74	VCO2	Outputs VCO (VCO-A board, Q3) select signal.
75	VCO1	Outputs VCO (VCO-A board, Q1) select signal.

#### 4-4-4 I/O EXPANDER ICs

##### MAIN unit, IC15

Pin number	Port name	Description
4	FILC	Outputs optional CW-N filter select signal. "High": FL-52A is selected.
6	NBS1	Outputs noise blanker circuit control signal. "High": [NB] is turned ON.
7	NBS2	Outputs noise blanker circuit control signal. "High": [NB] is turned ON.
12	TSW2	Outputs APF circuit control signal. "High": While APF is activated.
13	TSW1	Outputs APF passband width control signal. "High": Narrow is selected.
14	AGCF	Outputs AGC time constant control signal. "High": AGC fast is selected.

##### MAIN unit, IC16

Pin number	Port name	Description
4	F1	Outputs bandpass filter select signal to the RF-B unit. "High": While receiving 30 to 89.99999 MHz RF signals.
5	F2	Outputs bandpass filter select signal to the RF-B unit. "High": While receiving 90 to 242.09999 MHz RF signals.
6	F3	Outputs bandpass filter select signal to the RF-B unit. "High": While receiving 242.1 to 499.99999 MHz RF signals.
7	F4	Outputs bandpass filter select signal to the RF-B unit. "High": While receiving 500 to 1024.99999 MHz RF signals.
11	MUTE	Outputs squelch switch control signal. "Low": Squelched.
12	MI5V	Outputs MI5V regulator circuit control signal. "High": While receiving above 30 MHz RF signals.
13	FILS	Outputs bandpass filter select signal to the MIX unit. "High": 266.7 MHz bandpass filter is selected.
14	SW	Outputs bandpass filter select signal to the RF-B unit. "High": While receiving 754.1 to 1024.99999 MHz RF signals.

#### MAIN unit, IC18

Pin number	Port name	Description
4	WFM	Outputs WFM mode select signal.
5	FM	Outputs FM mode select signal.
6	/WFM	Outputs non-WFM mode select signal.
7	SSB	Outputs SSB mode select signal.
11	FIL3	Outputs 15 kHz bandpass filter select signal.
12	FIL2	Outputs 6 kHz bandpass filter select signal.
13	FIL1	Outputs 2.4 kHz bandpass filter select signal.
14	AM	Outputs AM mode select signal.

#### PLL unit, IC1

Pin number	Port name	Description
11	RST	Outputs reset signal.

#### PLL unit, IC2

Pin number	Port name	Description
4	STRB	Outputs strobe signal for the expander IC (IC1).
11	STDB	Outputs strobe signal for the BFO circuit (IC13).
12	STP2	Outputs strobe signal for the 2nd LO PLL IC (IC10).
13	STDA	Outputs strobe signal for the 1st LO PLL circuit (IC3).
14	STP1	Outputs strobe signal for the 1st LO PLL IC (IC5).

#### RF-A unit, IC3

Pin number	Port name	Description
4	B1	Outputs 0.1 to 0.49999 MHz bandpass filter select signal.
5	B2	Outputs 0.5 to 1.59999 MHz bandpass filter select signal.
6	B3	Outputs 1.6 to 1.99999 MHz bandpass filter select signal.
7	B4	Outputs 2.0 to 3.99999 MHz bandpass filter select signal.
11	B5	Outputs 4.0 to 7.99999 MHz bandpass filter select signal.
12	B6	Outputs 8.0 to 10.99999 MHz bandpass filter select signal.
13	B7	Outputs 11.0 to 14.99999 MHz bandpass filter select signal.
14	B8	Outputs 15.0 to 21.99999 MHz bandpass filter select signal.

#### RF-A unit, IC4

Pin number	Port name	Description
4	ANSW	Outputs [ANT2] select signal.
5	AT20	Outputs 20 dB attenuator control signal.
6	B9	Outputs 22.0 to 29.99999 MHz bandpass filter select signal.
7	PREF	Outputs 10 dB attenuator control signal. "High": While [10 dB] is ON.
13	HF5	Outputs HF5 V regulator circuit control signal.
14	PREO	Outputs 10 dB attenuator control signal. "High": While [10 dB] is OFF.

#### CONV unit, IC10

Pin number	Port name	Description
4	1GON	Outputs switching relay control signal. "High": While RF signals above 1025 MHz are received.
5	5MON	Outputs divider circuit (IC8) and LPF (L43-L45) control signal. "High": While 1025-1199.99999 MHz signals are received.
6	5MOF	Outputs divider circuit (IC8) and LPF (L47-L49) control signal. "High": While RF signals above 1200 MHz are received.
7	2ATF	Outputs 20 dB attenuator control signal. "High": While [20 dB] is OFF.
12	2ATN	Outputs 20 dB attenuator control signal. "High": While [20 dB] is ON.
13	1ATF	Outputs 10 dB attenuator control signal. "High": While [10 dB] is OFF.
14	1ATN	Outputs 10 dB attenuator control signal. "High": While [10 dB] is ON.

## SECTION 5 ADJUSTMENT PROCEDURES

### 5-1 METER REFERENCE ADJUSTMENT

*NOTE: This adjustment is not necessary unless the CPU or EEPROM ICs are replaced. The set data would not be cleared by CPU resetting.*

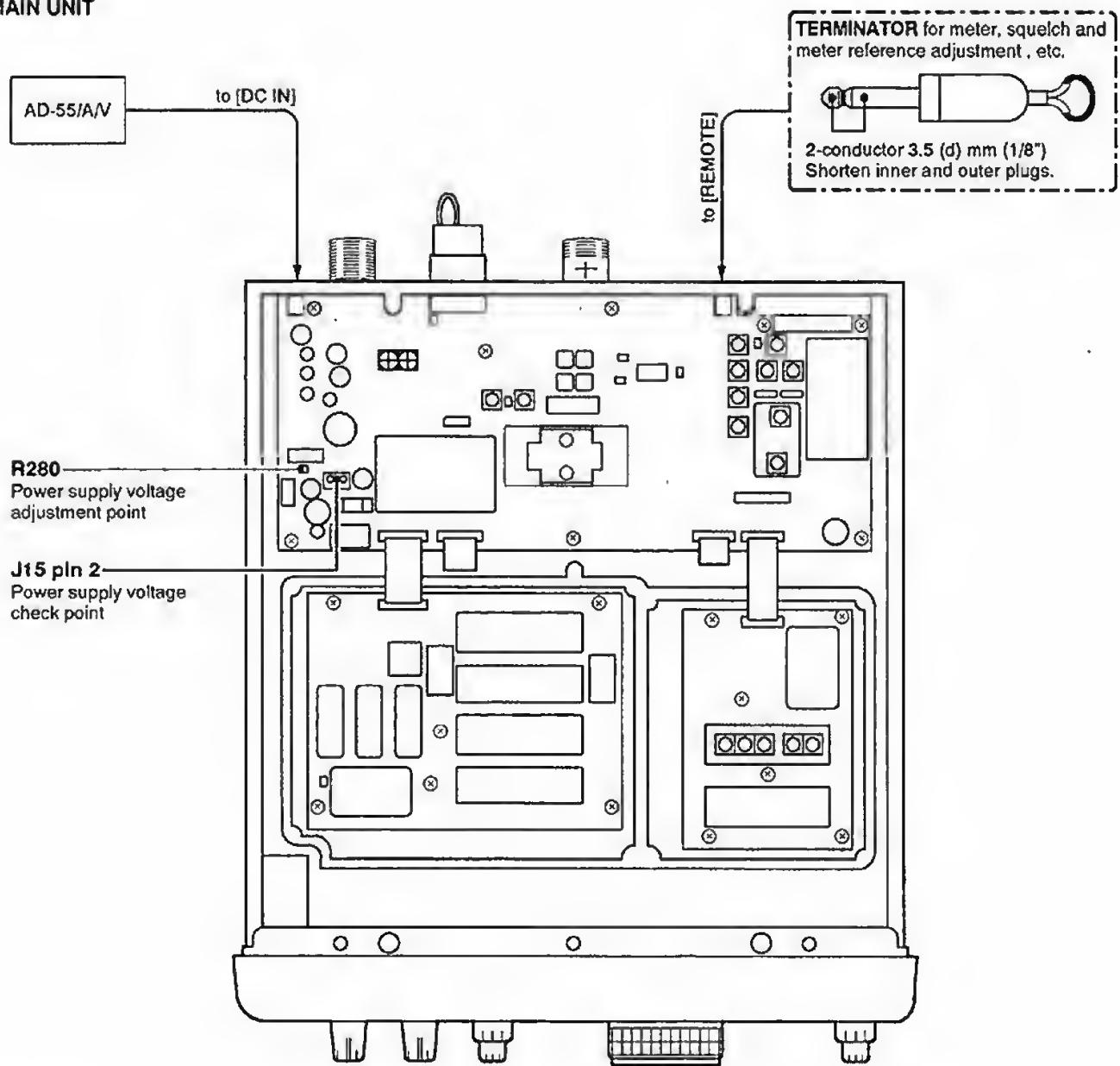
#### ■ ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITIONS	DOT MATRIX DISPLAY			OPERATION
ENTERING ADJUSTMENT SET MODE	• Connect a terminator to the [REMOTE] connector on the rear panel. • While pushing the [M-CH] and [ENT] switches, turn power ON.	Push 0 1 2 3			Push [0] to enter meter reference set mode; use [M-CH] / [ENT] switch to select item.
METER INDICATION	1 • Set the meter indication to "S3" with the [DIAL].	SET	53		Push [M-CH].
	2 • Set the meter indication to "S5" with the [DIAL].	SET	55		Push [M-CH].
	3 • Set the meter indication to "S7" with the [DIAL].	SET	57		Push [M-CH].
	4 • Set the meter indication to "S9" with the [DIAL].	SET	59		Push [M-CH].
	5 • Set the meter indication to "S9+20" with the [DIAL].	SET	59+20		Push [M-CH].
	6 • Set the meter indication to "S9+40" with the [DIAL].	SET	59+40		Push [M-CH].
	7 • Set the meter indication to "S9+60" with the [DIAL].	SET	59+60		Push [M-CH].

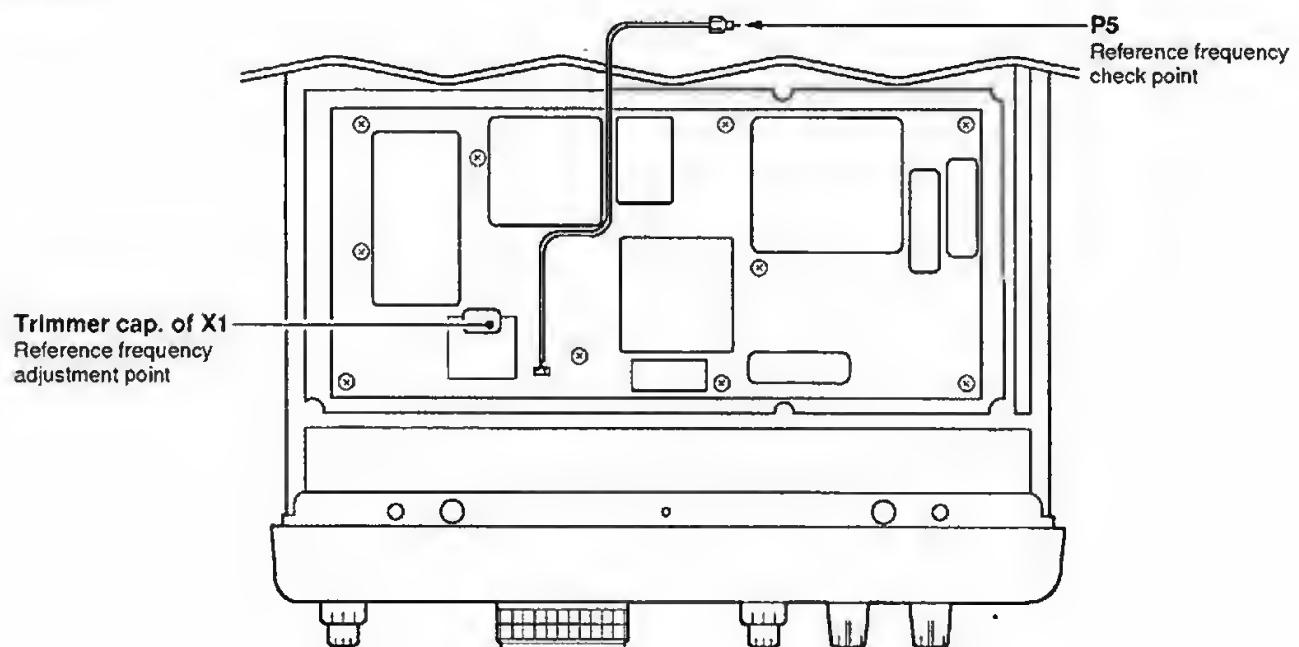
### 5-2 POWER SUPPLY VOLTAGE AND PLL ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
POWER SUPPLY VOLTAGE	1 • Connect an AD-55 to the [DC IN]. • Displayed freq. : 1100.000 MHz • Mode : Any • Receiving	MAIN	Connect a voltmeter to J15 pin 2.	12.5 V	MAIN	R280
REFERENCE FREQUENCY	1 • Displayed freq. : Any • Mode : Any	PLL	Connect a frequency counter to P5.	15.100000 MHz	PLL	The trimmer capacitor of X1
	2		Connect an RF voltmeter (50 Ω impedance) to P5.	2 dBm ± 3 dB		Verify

• MAIN UNIT



• PLL UNIT



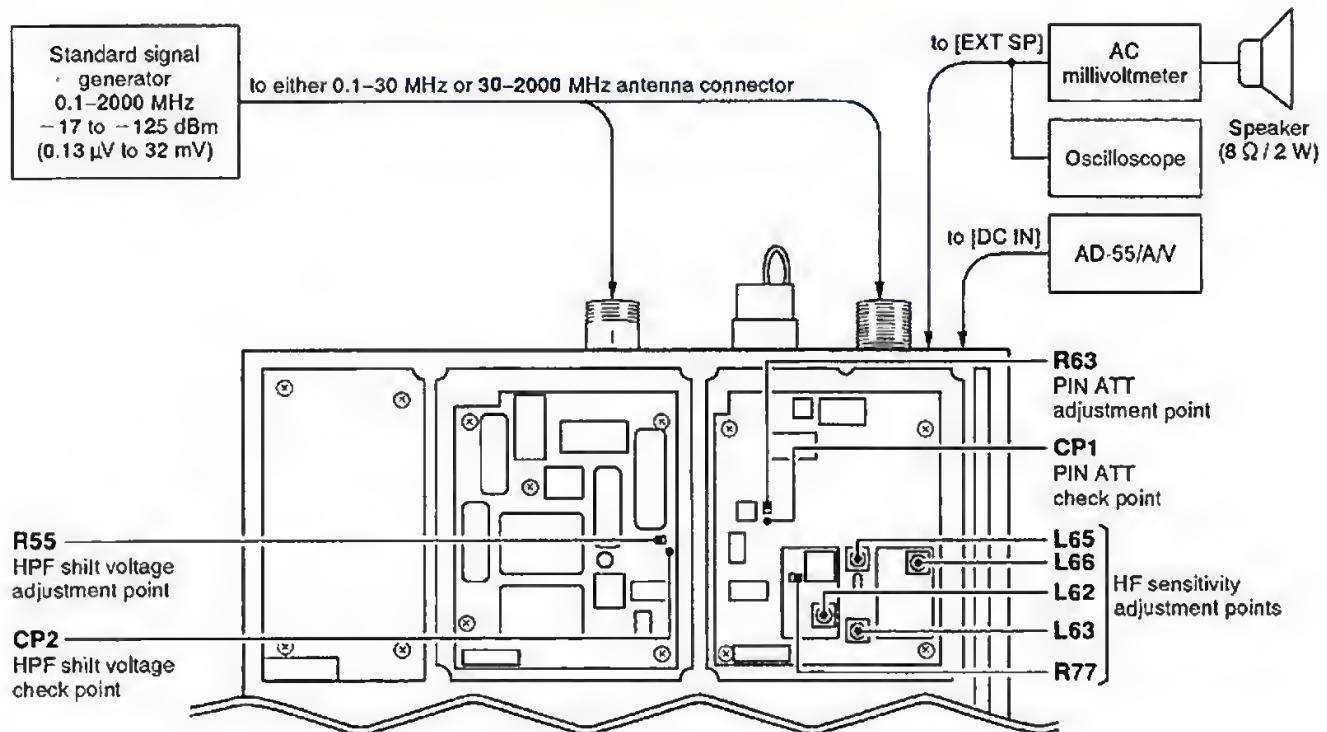
### 5-3 RECEIVER ADJUSTMENT

ADJUSTMENT		ADJUSTMENT CONDITIONS		MEASUREMENT		VALUE	ADJUSTMENT POINT	
				UNIT	LOCATION		UNIT	ADJUST
PIN ATT	1	• Displayed freq.: 14.10000 MHz • Mode : USB • Receiving	RF-A	Connect a digital multi-meter to CP1.	1.7 V	RF-A	R83	
HF SENSITIVITY	1	• Displayed freq.: 14.09850 MHz • Mode : USB • [10 dB] : ON • [AGC] : Fast • Connect an SSG to the antenna connector for 0.1–30 MHz (50 Ω ANT) and set as: Frequency : 14.10000 MHz Level : 0.56 µV* (-112 dBm) Modulation : OFF • Receiving	Rear panel	Connect an AC voltmeter to the [EXT SP] with an 8 Ω load.	Maximum output level	RF-A	Adjust in sequence L65, L68 L63, L62	
	2	• Set an SSG output level: OFF • Receiving			Minimum output level			R77
1ST MIXER BIAS VOLTAGE	1	• Displayed freq.: 173.00000 MHz • Disconnect J4. • Receiving	RF-B	Connect a digital multi-meter to both terminals of R91.	0.2 V	RF-B	R109	
HPF SHIFT VOLTAGE	1	• Displayed freq.: 1300.00000 MHz • Mode : FM • Receiving	CONV	Connect a digital multi-meter to CP2.	14.5 V	CONV	R55	
	2	• Displayed freq.: 1100.00000 MHz • Receiving			3.0 V ±1.0 V			Verify
NOTE: Before adjusting WFM SENSITIVITY, 5-4 RF-B BPF TUNED VOLTAGE ADJUSTMENT must be performed.								
WFM SENSITIVITY	1	• Displayed freq.: 173.02000 MHz • Mode : WFM • Connect an SSG to the antenna connector for 30–2000 MHz and set as: Level : 1 mV* (-47 dBm) Modulation : 1 kHz Deviation : ±75 kHz • Receiving	MAIN	Connect a digital multi-meter to CP1.	2.5 V	MAIN	C37	
	2	• Set an SSG level as: 3.2 µV* (-97 dBm) • Receiving		Connect a digital multi-meter to CP4.	Minimum voltage			Adjust L7, L8, L9, L10 repeatedly
	3			Connect a digital multi-meter to CP1.	2.5 V			C37
FM SENSITIVITY	1	• Displayed freq.: 173.02000 MHz • Mode : FM • Connect an SSG to the antenna connector for 30–2000 MHz and set as: Level : 3.2 µV* (-97 dBm) Modulation : 1 kHz Deviation : ±75 kHz • Receiving	Front panel	S-meter	Maximum level	MAIN	Adjust in repeatedly L14, L17 L22, L25 L28	
1ST IF NOTCH	1	• Displayed freq.: 788.60000 MHz • Mode : FM • Connect an SSG to the antenna connector for 30–2000 MHz and set as: Frequency : 810.00000 MHz Level : 32 mV* (-17 dBm) Modulation : OFF • Receiving	Front panel	S-meter	Minimum level	MIX		L15

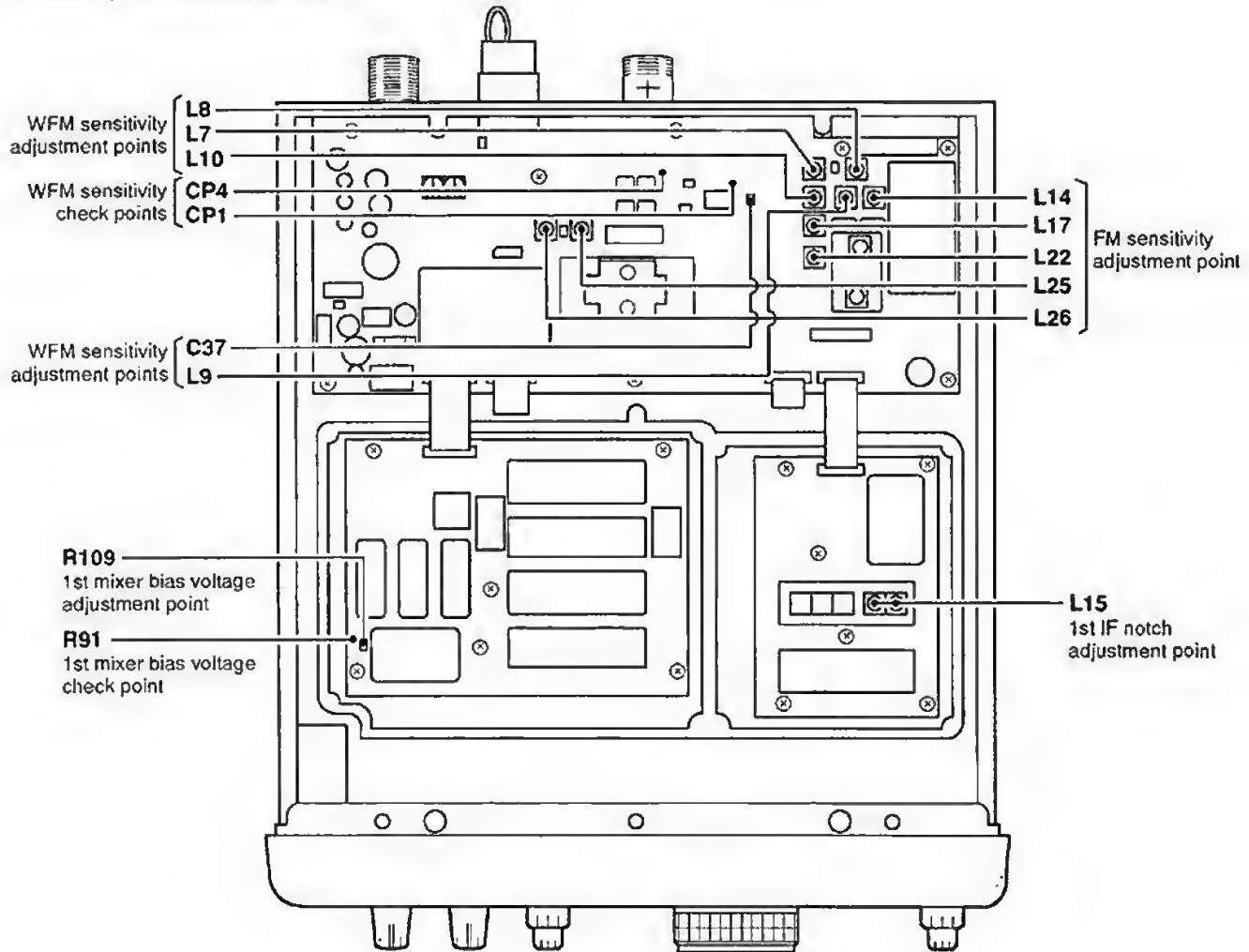
\*This output level of a standard signal generator (SSG) is indicated as SSG's open circuit.

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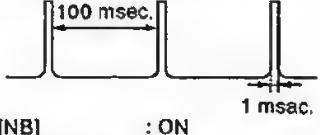
• CONV AND RF-A UNITS



• MAIN, MIX AND RF-B UNITS

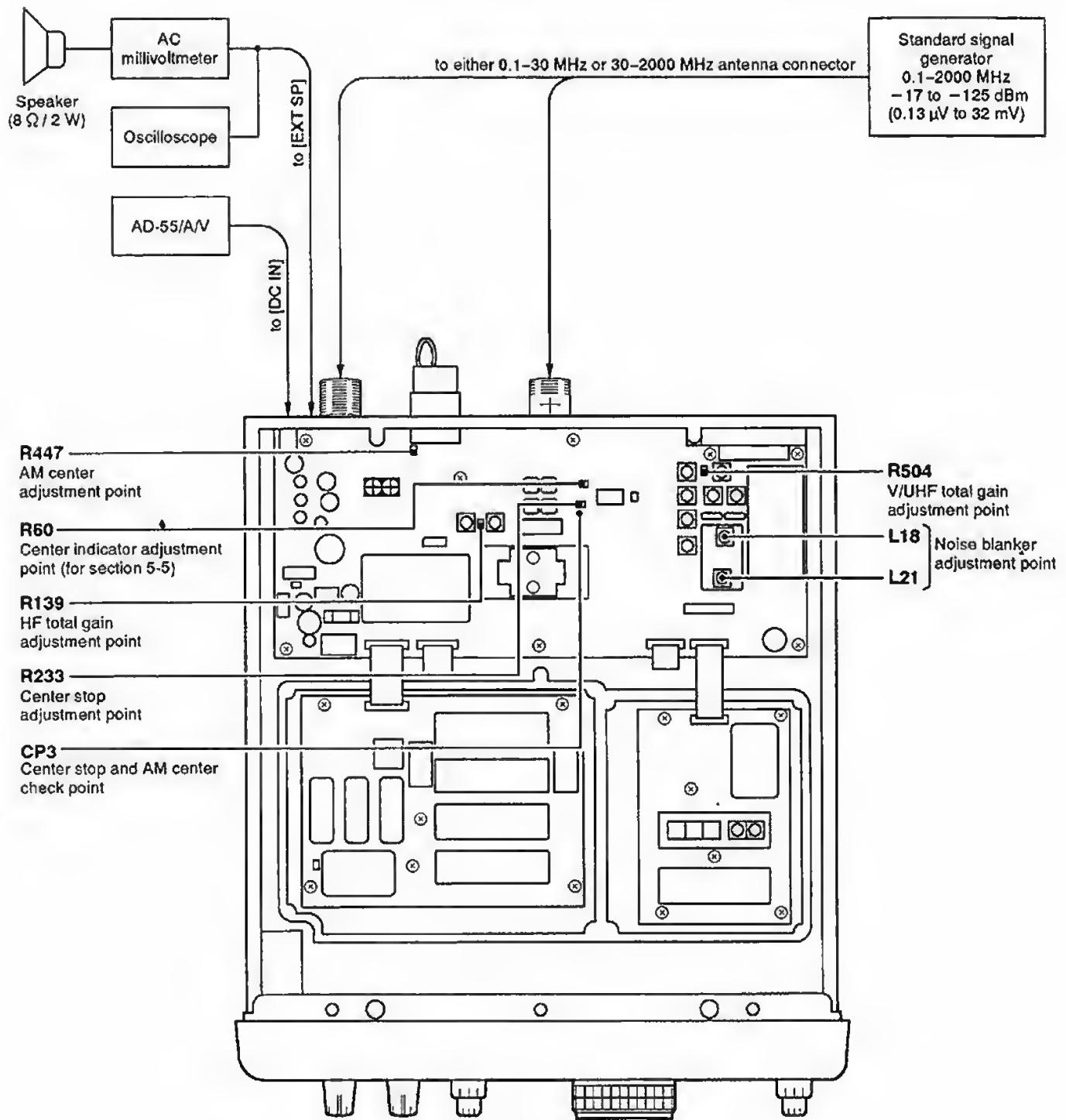


## RECEIVER ADJUSTMENT (CONTINUED)

ADJUSTMENT	ADJUSTMENT CONDITIONS	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
HF TOTAL GAIN	1	Rear panel	Connect an AC millivoltmeter to the [EXT SP] jack with an 8 Ω load.	1.5 kHz audio	Front panel	[DIAL]
	Frequency : 14.10000 MHz Mode : USB Connect an SSG to the antenna connector for 0.1–30 MHz (50 Ω ANT) and set as: Frequency : 14.10000 MHz Level : 1 mV* (-47 dBm) Modulation : OFF Receiving			1.0 V (0 dB)		[AF GAIN]
	2 • Set an SSG level as: OFF			100 mV (-20 dB)	MAIN	R139
V/UHF TOTAL GAIN	1	Rear panel	Connect an AC millivoltmeter to the [EXT SP] jack with an 8 Ω load.	1.5 kHz audio	Front panel	[DIAL]
	• Displayed freq. : 173.0185 MHz • Mode : USB • Connect an SSG to the antenna connector for 30–2000 MHz and set as: Frequency : 173.02000 MHz Level : 1 mV* (-47 dBm) Modulation : OFF Receiving			1.0 V (0 dB)		[AF GAIN]
	2 • Set an SSG level as: OFF			100 mV (-20 dB)	MAIN	R504
NOISE BLANKER	1	Rear panel	Connect an oscilloscope to the [EXT SP] jack with an 8 Ω load.	Minimum noise level	MAIN	L18, L21
	• Displayed freq. : 173.00000 MHz • Mode : USB • Connect an SSG to the antenna connector for 30–2000 MHz and set as: Level : 10 µV* (-87 dBm) and apply following signal to the antenna connector.  • [NB] : ON • Receiving					
CENTER STOP	1	MAIN	Connect an oscilloscope to CP3.	At the point where the voltage just becomes 0 V for equidistant values both above and below the displayed frequency in 100 Hz tuning steps.	MAIN	R233
AM CENTER	1	MAIN	Connect an oscilloscope to CP3.	At the point where the voltage just becomes 0 V at 173.01870 MHz and 5 V at 173.01890 MHz.	MAIN	R447

\*This output level of a standard signal generator (SSG) is indicated as SSG's open circuit.

• MAIN UNIT



## 5-4 RF-B BPF TUNED VOLTAGE ADJUSTMENT

### ■ ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITIONS	DOT MATRIX DISPLAY	OPERATION
ENTERING ADJUSTMENT SET MODE	<ul style="list-style-type: none"> <li>Connect a terminator to the [REMOTE] connector on the rear panel.</li> <li>While pushing the [M-CH] and [ENT] switches, turn power ON.</li> </ul>	Push 0 1 2 3	Push [1] to enter RF-B BPF tuned voltage set mode; use [M-CH] / [ENT] switches to select item.
RF-B BPF TUNED VOLTAGE	1	BPF1 30.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	2	BPF1 45.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	3	BPF1 60.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	4	BPF1 75.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	5	BPF1 89.9M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	6	BPF2 90.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	7	BPF2 128.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	8	BPF2 166.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	9	BPF2 204.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	10	BPF2 242.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	11	BPF3 242.1M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>
	12	BPF3 307.0M	<ul style="list-style-type: none"> <li>Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].</li> </ul>

\*This output level of a standard signal generator (SSG) is indicated as SSG's open circuit.

## ■ RF-B BPF TUNED VOLTAGE ADJUSTMENT (CONTINUED)

ADJUSTMENT	ADJUSTMENT CONDITIONS	DOT MATRIX DISPLAY	OPERATION
RF-B BPF TUNED VOLTAGE	13 • Set an SSG frequency as displayed.	BPF3 371.0M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	14 • Set an SSG frequency as displayed.	BPF3 435.0M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	15 • Set an SSG frequency as displayed.	BPF3 499.9M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	16 • Set an SSG frequency as displayed.	BPF4 563.0M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	17 • Set an SSG frequency as displayed.	BPF4 563.5M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	18 • Set an SSG frequency as displayed.	BPF4 627.0M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	19 • Set an SSG frequency as displayed.	BPF4 690.5M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	20 • Set an SSG frequency as displayed.	BPF4 754.0M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	21 • Set an SSG frequency as displayed.	BPF5 754.1M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	22 • Set an SSG frequency as displayed.	BPF5 821.5M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	23 • Set an SSG frequency as displayed.	BPF5 894.1M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	24 • Set an SSG frequency as displayed.	BPF5 956.5M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].
	25 • Set an SSG frequency as displayed.	BPF5 1024.9M	• Turn the [DIAL] until the S-meter indicates maximum level, then push and hold [M-CH].

\*This output level of a standard signal generator (SSG) is indicated as SSG's open circuit.

## 5-5 NOISE SQUELCH, S-METER AND CENTER INDICATOR ADJUSTMENT

### ■ ADJUSTMENT

ADJUSTMENT		ADJUSTMENT CONDITIONS	DOT MATRIX DISPLAY	OPERATION
ENTERING ADJUSTMENT SET MODE		• Connect a terminator to the [REMOTE] connector on the rear panel. • While pushing the [M-CH] and [ENT] switches, turn power ON.	PUSH 0 1 2 3	Push [2] to enter RF-B BPF tuned voltage set mode; use [M-CH] / [ENT] switches to select item.
NOISE SQUELCH	27	• Connect an SSG to the antenna connector for 30~2000 MHz and set as: Frequency : 173.02000 MHz Level : 0.13 $\mu$ V* (-125 dBm) Modulation : 1 kHz Deviation : $\pm$ 3.5 kHz • Receiving	NOISE ノイズ	• Push and hold the [M-CH].
	28	• Set an SSG level as: 0.4 $\mu$ V* (-115 dBm)	NOISE 941	• Push and hold the [M-CH].
S-METER	29	• Set an SSG level as: 0.4 $\mu$ V* (-115 dBm)	SIG S0	• Push and hold the [M-CH].
	30	• Set an SSG level as: 1.3 $\mu$ V* (-105 dBm)	SIG S0	• Push and hold the [M-CH].
	31	• Set an SSG level as: 0.79 $\mu$ V* (-109 dBm)	SIG S3	• Push and hold the [M-CH].
	32	• Set an SSG level as: 2.0 $\mu$ V* (-101 dBm)	SIG S3	• Push and hold the [M-CH].
	33	• Set an SSG level as: 3.2 $\mu$ V* (-97 dBm)	SIG S5	• Push and hold the [M-CH].
	34	• Set an SSG level as: 3.2 $\mu$ V* (-97 dBm)	SIG S5	• Push and hold the [M-CH].
	35	• Set an SSG level as: 13 $\mu$ V* (-85 dBm)	SIG S7	• Push and hold the [M-CH].
	36	• Set an SSG level as: 13 $\mu$ V* (-85 dBm)	SIG S7	• Push and hold the [M-CH].
	37	• Set an SSG level as: 50 $\mu$ V* (-73 dBm)	SIG S9	• Push and hold the [M-CH].
	38	• Set an SSG level as: 50 $\mu$ V* (-73 dBm)	SIG S9	• Push and hold the [M-CH].
	39	• Set an SSG level as: 500 $\mu$ V* (-53 dBm)	SIG S9+20	• Push and hold the [M-CH].
	40	• Set an SSG level as: 500 $\mu$ V* (-53 dBm)	SIG S9+20	• Push and hold the [M-CH].
	41	• Set an SSG level as: 5 mV* (-33 dBm)	SIG S9+40	• Push and hold the [M-CH].
	42	• Set an SSG level as: 5 mV* (-33 dBm)	SIG S9+40	• Push and hold the [M-CH].
CENTER INDICATOR	43	• Set an SSG level as: 50 mV* (-13 dBm)	SIG S9+60	• Push and hold the [M-CH].
	44	• Set an SSG level as: 50 mV* (-13 dBm)	SIG S9+60	• Push and hold the [M-CH].
	45	• Set an SSG level as: 32 $\mu$ V* (-77 dBm)	WFM センタキオク	• Push and hold the [M-CH].
	46	• Set an SSG level as: 32 $\mu$ V* (-77 dBm)	FM センタセレクト	• Adjust R60 (MAIN unit) to the S-meter indicates maximum level (around S9). • Push the [M-CH].

\*This output level of a standard signal generator (SSG) is indicated SSG's open circuit.

## 5-6 S-METER FLAT ADJUSTMENT

### ■ ADJUSTMENT

ADJUSTMENT	ADJUSTMENT CONDITIONS	DOT MATRIX DISPLAY	OPERATION
ENTERING ADJUSTMENT SET MODE	<ul style="list-style-type: none"> <li>• Connect a terminator to the [REMOTE] connector on the rear panel.</li> <li>• While pushing the [M-CH] and [ENT] switches, turn power ON.</li> </ul>	PUSH 0 1 2 3	Push [3] to enter S-meter flat set mode. Once entering mode, use [M-CH] / [ENT] switches to select item.
S-METER FLAT:	48 • Connect an SSG to the antenna connector for 0.1–30 MHz (50 Ω ANT) and set as: Frequency : Same freq. as displayed Level : 50 μV* (-73 dBm) Modulation: OFF • Receiving	SIG_F 0.3M	• Pushing and holding the [M-CH].
	49 • Set an SSG frequency as displayed.	SIG_F 1.0M	• Pushing and holding the [M-CH].
	50 • Set an SSG frequency as displayed.	SIG_F 1.8M	• Pushing and holding the [M-CH].
	51 • Set an SSG frequency as displayed.	SIG_F 3.0M	• Pushing and holding the [M-CH].
	52 • Set an SSG frequency as displayed.	SIG_F 6.0M	• Pushing and holding the [M-CH].
	53 • Set an SSG frequency as displayed.	SIG_F 9.5M	• Pushing and holding the [M-CH].
	54 • Set an SSG frequency as displayed.	SIG_F 13.0M	• Pushing and holding the [M-CH].
	55 • Set an SSG frequency as displayed.	SIG_F 18.5M	• Pushing and holding the [M-CH].
	56 • Set an SSG frequency as displayed.	SIG_F 26.0M	• Pushing and holding the [M-CH].
	57 • Connect an SSG to the antenna connector for 30–2000 MHz and set as: Frequency : Same freq. as displayed Level : 50 μV* (-73 dBm) Modulation: OFF • Receiving	SIG_F 1127.0M	• Pushing and holding the [M-CH].
	58 • Set an SSG frequency as displayed.	SIG_F 1204.0M	• Pushing and holding the [M-CH].
	59 • Set an SSG frequency as displayed.	SIG_F 1371.0M	• Pushing and holding the [M-CH].
	60 • Set an SSG frequency as displayed.	SIG_F 1627.0M	• Pushing and holding the [M-CH].
	61 • Set an SSG frequency as displayed.	SIG_F 1894.1M	• Pushing and holding the [M-CH].
	82 • Set an SSG frequency as displayed.	SIG_F 1990.0M	• Pushing and holding the [M-CH].
	63 • Set an SSG frequency as displayed.	SIG_F 1999.9M	• Pushing and holding the [M-CH].

\*This output level of a standard signal generator (SSG) is indicated SSG's open circuit.

# SECTION 6 PARTS LIST

## [FRONT UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
S1	2280001260	SWITCH	SW-118 (SO0FA3)
S2	2250000330	ENCODER	SW-183 (EC24B1AB0)
W8	8900008880	CABLE	OPC-643
W8	8900008890	CABLE	OPC-644
W10	8900008700	CABLE	OPC-645
W11	8800008700	CABLE	OPC-645
WS1	8600035430		P01FR
WS2	8800035440		P02FR
ME1	5510000440	METER	ME-36 (KL-218U-49)
EP1	8450001230	E.OTHER	HLJ0989-01-480

## [DISP UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R21	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R22	7030003490	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R23	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R24	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R25	7030003450	S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ)
R26	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R27	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R28	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R29	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R30	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R31	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R32	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R33	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R34	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R35	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R36	7030003660	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R37	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R38	7030003780	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R39	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R40	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R41	7210002650	VARIABLE	RV-30 (RK09L1140) 10KB
R42	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R43	7210002650	VARIABLE	RV-30 (RK09L1140) 10KB
R44	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R45	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R46	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R47	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R48	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R49	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R50	7030003800	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R51	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R52	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R53	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R54	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R55	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R56	7030008080	S.RESISTOR	ERJ12YJ100H (10 Ω)
R57	7030008080	S.RESISTOR	ERJ12YJ100H (10 Ω)
C1	4030007020	S.CERAMIC	C1808 CH 1H 120J-T-A
C2	4030007020	S.CERAMIC	C1808 CH 1H 120J-T-A
C3	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C4	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C5	4510004850	S.ELECTROLITIC	ECEV1EA4R7SR
C7	4030008900	S.CERAMIC	C1808 JB 1E 103K-T-A
C8	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C10	4030006880	S.CERAMIC	C1808 JB 1H 102K-T-A
C11	4030006880	S.CERAMIC	C1808 JB 1H 102K-T-A
C12	4030009000	S.CERAMIC	C2012 JB 1C 224K-T-A
C13	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C14	4030008900	S.CERAMIC	C1808 JB 1E 103K-T-A
C15	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A
C18	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A
C17	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A
C18	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A
C18	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A
C20	4030006890	S.CERAMIC	C1808 JB 1E 103K-T-A
C21	4030008900	S.CERAMIC	C1808 JB 1E 103K-T-A
C22	4030008900	S.CERAMIC	C1808 JB 1E 103K-T-A
C23	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
RL1	6330001420	S.RELAY	ATO203SAZ
DS1	5030001380	LCO	DLC-7902YBGT
DS2	5080000370	LAMP	HRS-4180A
DS3	5080000370	LAMP	HRS-4180A
DS4	5080000370	LAMP	HRS-4180A
DS5	5080000370	LAMP	HRS-4180A

S.=Surface mount

[DISP UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
S1	2230000970	SWITCH	ESB-84820
J1	8510019370	S.CONNECTOR	B3B-ZR-SM3-TF
J2	8510019290	S.CONNECTOR	52810-0990
J3	8510019290	S.CONNECTOR	52810-1490
J4	6510019390	S.CONNECTOR	52910-0990
J5	8510019360	S.CONNECTOR	52910-0990
J6	9510019370	S.CONNECTOR	B3B-ZR-SM3-TF
J8	8510003400	CONNECTOR	B04B-EH-S
W1	7120000380	JUMPER	JPW 01 R-01
W2	7120000380	JUMPER	JPW 01 R-01
WS1	8900035450		P01*J07DI
EP1	0010049574	PCB	B 4733D
EP2	8830041150	LCD CONTACT	SRDN-1788 SP-N-W

[JACK BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	
R1	7030000300	S.RESISTOR	MCR10EZHZ 220 Ω (221)
R2	7030000300	S.RESISTOR	MCR10EZHZ 220 Ω (221)
R3	7030000300	S.RESISTOR	MCR10EZHZ 220 Ω (221)
R4	7030000300	S.RESISTOR	MCR10EZHZ 220 Ω (221)
C1	4030008900	S.CERAMIC	C1908 JB 1E 103K-T-A
C2	4030008900	S.CERAMIC	C1908 JB 1E 103K-T-A
C3	4030008900	S.CERAMIC	C1909 JB 1E 103K-T-A
C4	4030008900	S.CERAMIC	C1908 JB 1E 103K-T-A
C5	4030008900	S.CERAMIC	C1908 JB 1E 103K-T-A
J1	8450001440	CONNECTOR	HSJ1403-01-010
J2	8450001440	CONNECTOR	HSJ1403-01-010
J3	8450001250	CONNECTOR	HLJ4308-01-3070
WS1	8900035480		P01*02*J04JA
EP1	0910046622	PCB	B 4738B

[SW-A BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	
J1	8510019820	CONNECTOR	52030-0810
EP1	0810046583	PCB	B 4734C

[SW-B BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	
J1	8510019830	CONNECTOR	52030-1410
EP1	0810046583	PCB	B 4735C

[VR-A BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	
R1	7210002880	VARIABLE	RV-308 (RK0972210) 10KB/10KB
J1	8510019390	S.CONNECTOR	52810-0680
EP1	0810046602	PCB	B 4739B

[VR-B BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	
R1	7210002870	VARIABLE	RV-307 (RK0972210) SW/10KB
J1	8510019360	S.CONNECTOR	52810-0890
EP1	0910048911	PCB	B 4737A

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
IC1	1130007700	S.I.C	BU4094BCF-T1
IC2	1130007700	S.I.C	BU4094BCF-T1
IC3	1140003841	S.I.C	SC-1249
IC4	1130003830	S.I.C	TC7S04F (TE85R)
IC5	1130007970	S.I.C	MC145180FR2
IC8	1110003310	S.I.C	μPC1988G-T1
IC7	1130003830	S.I.C	TC7S04F (TE85R)
IC8	1110000880	S.I.C	NJM4558M(T1)
IC9	1110004080	S.I.C	μPC2709T-E3
IC10	1130007970	S.I.C	MC145190FR2
IC11	1120002450	S.I.C	HD74LS80FP-TL
IC12	1110003310	S.I.C	μPC1886G-T1
IC13	1140004550	S.I.C	M85343FP/SC-1297
IC15	1140004550	S.I.C	M85343FP/SC-1287
IC18	1180001070	S.I.C	TA7805F(TE16L)
IC17	1180001580	S.I.C	MCT7808CD2TRR4
IC16	1130003830	S.I.C	TC7S04F (TE85R)
IC18	1130003830	S.I.C	TC7S04F (TE85R)
IC20	1140003830	S.I.C	TC4W86F(TE12L)
IC21	1130003830	S.I.C	TC7S04F (TE85R)
IC22	1110003270	S.I.C	M8511PF-G-BND
IC23	1110003270	S.I.C	MB511PF-G-BND
IC24	1190001070	S.I.C	TA7805F(TE19L)
O2	1580000330	S.FET	2SK210-GR (TE85R)
O3	1530002080	S.TRANSISTOR	2SC4081 T107 R
O7	1590000430	S.TRANSISTOR	DTC144EU T107
O8	1590000430	S.TRANSISTOR	DTC144EU T107
O9	1590000720	S.TRANSISTOR	DTA144EU T107
O10	1590001000	S.TRANSISTOR	RN2427 (TE85R)
O11	1590000680	S.TRANSISTOR	DTC114EU T107
O12	1590001000	S.TRANSISTOR	RN2427 (TE85R)
O13	1580000720	S.TRANSISTOR	DTA144EU T107
O14	1580000400	S.FET	2SK538-TA
O15	1530002050	S.TRANSISTOR	2SC3661-TB
O21	1590000430	S.TRANSISTOR	DTC144EU T107
O22	1590000720	S.TRANSISTOR	DTA144EU T107
O24	1590000430	S.TRANSISTOR	DTC144EU T107
O25	1580000720	S.TRANSISTOR	DTA144EU T107
O28	15300002080	S.TRANSISTOR	2SC4081 T107 R
O31	15300002080	S.TRANSISTOR	2SC4081 T107 R
O34	15300002050	S.TRANSISTOR	2SC3881-TB
O38	1580000680	S.TRANSISTOR	DTC114EU T107
Q37	1590000430	S.TRANSISTOR	DTC144EU T107
Q38	1590002290	S.TRANSISTOR	FMS2A T148

S.=Surface mount

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
O39	15800002300	S.TRANSISTOR	FMW2 T146
O40	1580000720	S.TRANSISTOR	DTA144EU T107
O41	1580000660	S.TRANSISTOR	DTC114EU T107
O42	15300002080	S.TRANSISTOR	2SC4061 T107 R
O43	1510000510	S.TRANSISTOR	2SA1578 T107 R
O44	1510000510	S.TRANSISTOR	2SA1578 T107 R
O45	15300002080	S.TRANSISTOR	2SC4061 T107 R
O48	1580000430	S.TRANSISTOR	DTC144EU T107
O47	1580001020	S.TRANSISTOR	RN2424 (TE85R)
O48	15300002080	S.TRANSISTOR	2SC4061 T107 R
O49	1580000430	S.TRANSISTOR	DTC144EU T107
O50	15800001020	S.TRANSISTOR	RN2424 (TE85R)
O51	15300002080	S.TRANSISTOR	2SC4061 T107 R
O52	1580000430	S.TRANSISTOR	DTC144EU T107
O53	1590000720	S.TRANSISTOR	DTA144EU T107
O54	1580000430	S.TRANSISTOR	DTC144EU T107
O55	1580000720	S.TRANSISTOR	DTA144EU T107
D1	1780000540	S.VARICAP	MA338(TX)
D2	1780000540	S.VARICAP	MA338(TX)
D4	1750000110	S.DIODE	1SS272 (TE85R)
D5	1750000110	S.DIODE	1SS272 (TE85R)
D6	1750000110	S.DIODE	1SS272 (TE85R)
D7	1750000210	S.DIODE	1SV237 (TE85R)
D8	1750000110	S.DIODE	1SS272 (TE85R)
D17	1750000210	S.DIODE	1SV237 (TE85R)
D18	1750000210	S.DIODE	1SV237 (TE85R)
D19	1750000210	S.DIODE	1SV237 (TE85R)
D20	17300002420	S.ZENER	MA8180(TX)
D23	1750000110	S.DIODE	1SS272 (TE85R)
D25	1750000210	S.DIODE	1SV237 (TE85R)
O28	1750000210	S.DIODE	1SV237 (TE85R)
F11	2020001200	CERAMIC	SFSH8.5MCB
X1	8050006710	XTAL	CR-452 (30.200 MHz)
L1	8200001830	S.COIL	NL 322522T-100J
L2	8200003950	S.COIL	HF50ACC 322513-T
L4	8200001830	S.COIL	NL 322522T-100J
L5	8200003280	S.COIL	NL 322522T-101J
L6	8200008380	S.COIL	LOSS3N 8R8G04
L7	8200003280	S.COIL	NL 322522T-101J
L8	8200001830	S.COIL	NL 322522T-100J
L10	8200003330	S.COIL	NL 322522T-1R0J-3
L11	8200003330	S.COIL	NL 322522T-1R0J-3
L12	8200003280	S.COIL	NL 322522T-101J
L13	8200003280	S.COIL	NL 322522T-101J
L14	8200003330	S.COIL	NL 322522T-1R0J-3
L17	8200003280	S.COIL	NL 322522T-101J
L18	8200003330	S.COIL	NL 322522T-1R0J-3
L18	8200001630	S.COIL	NL 322522T-100J
L20	8200005500	S.COIL	NL 322522T-471J
L21	8200005500	S.COIL	NL 322522T-471J
L22	8200003330	S.COIL	NL 322522T-1R0J-3
L23	8200003330	S.COIL	NL 322522T-1R0J-3
L24	8200003330	S.COIL	NL 322522T-1R0J-3
L25	8200003020	S.COIL	NL 322522T-R33J-3
L28	8200005340	S.COIL	LL1808-F8N2J
L27	8200005320	S.COIL	LL1808-F5N8S
L28	8200005320	S.COIL	LL1808-F5N8S
L29	8200005300	S.COIL	LL1808-F3N8S
L30	8200005310	S.COIL	LL1808-F4N7S
L31	8200005320	S.COIL	LL1808-F5N8S
L32	8200003280	S.COIL	NL 322522T-101J
L33	8200003280	S.COIL	NL 322522T-101J
L37	8200001830	S.COIL	NL 322522T-100J
L40	8200003330	S.COIL	NL 322522T-1R0J-3
L41	8200003330	S.COIL	NL 322522T-1R0J-3
L42	8200005400	S.COIL	LL1808-F27NJ
L43	8200005410	S.COIL	LL1808-F33NJ
L44	8200005410	S.COIL	LL1808-F33NJ

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
L45	8200003330	S.COIL	NL 322522T-1R0J-3
L46	8200005350	S.COIL	LL1808-F10NJ
L47	8200005360	S.COIL	LL1808-F12NJ
L48	8200001830	S.COIL	NL 322522T-100J
L49	8200001830	S.COIL	NL 322522T-100J
L50	8200003330	S.COIL	NL 322522T-1R0J-3
L51	8200003150	S.COIL	NL 322522T-100J
L52	8200003150	S.COIL	NL 322522T-100J
L80	8200003280	S.COIL	NL 322522T-101J
L81	8200001830	S.COIL	NL 322522T-100J
L82	8200001710	S.COIL	NL 322522T-220J
L83	8200005500	S.COIL	NL 322522T-471J
L84	8200005500	S.COIL	NL 322522T-471J
L85	8200003280	S.COIL	NL 322522T-331J
L86	8200005500	S.COIL	NL 322522T-471J
L70	8200003330	S.COIL	NL 322522T-1R0J-3
L72	8200003330	S.COIL	NL 322522T-1R0J-3
L73	8200005380	S.COIL	LL1808-F10NJ
L74	8200005350	S.COIL	LL1808-F10NJ
L75	8200005380	S.COIL	LL1808-F12NJ
L77	8200005380	S.COIL	LL1808-F12NJ
L78	8200003330	S.COIL	NL 322522T-1R0J-3
L78	8200003150	S.COIL	NL 322522T-100J
L80	8200003150	S.COIL	NL 322522T-100J
L81	8200003140	S.COIL	NL 322522T-150J
L82	8200003280	S.COIL	NL 322522T-101J
L83	8200003030	S.COIL	NL 322522T-R47J-3
L84	8200003030	S.COIL	NL 322522T-R47J-3
L85	8200005490	S.COIL	NL 322522T-331J
L86	8200005500	S.COIL	NL 322522T-471J
L87	8200003280	S.COIL	NL 322522T-R30J-3
L88	8200003280	S.COIL	NL 322522T-101J
L89	8200003280	S.COIL	NL 322522T-101J
L90	8200003280	S.COIL	NL 322522T-101J
L91	8200003280	S.COIL	NL 322522T-101J
L92	8200003280	S.COIL	NL 322522T-101J
L93	8200005380	S.COIL	LL1808-F12NJ
L94	8200005350	S.COIL	LL1808-F10NJ
L95	8200005340	S.COIL	LL1808-F8N2J
L96	8200006040	S.COIL	LOP11A 5N8C14
L97	8200005330	S.COIL	LL1808-F8N8J
L98	8200006060	S.COIL	LOP11A 6N2C14
L98	8200003430	S.COIL	NL 322522T-R10J
L100	8200008180	S.COIL	LOP21A 68NG14
L101	8200003430	S.COIL	NL 322522T-R10J
L102	8200003330	S.COIL	NL 322522T-1R0J-3
L103	8200003280	S.COIL	NL 322522T-101J
L104	8200003280	S.COIL	NL 322522T-101J
L105	8200003010	S.COIL	NL 322522T-R27J-3
L106	8200003010	S.COIL	NL 322522T-R27J-3
L107	8200003090	S.COIL	NL 322522T-R22J-3
L108	8200003330	S.COIL	NL 322522T-1R0J-3
L109	8200005410	S.COIL	LL1808-F33NJ
L110	8200005400	S.COIL	LL1808-F27NJ
L111	8200005350	S.COIL	LL1808-F10NJ
L112	8200005340	S.COIL	LL1808-F8N2J
L113	8200003280	S.COIL	NL 322522T-101J
R1	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R2	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R3	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R4	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R8	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R10	7030007230	S.RESISTOR	ERA3YED 102V
R11	7030007230	S.RESISTOR	ERA3YED 102V
R12	7030007230	S.RESISTOR	ERA3YED 102V
R13	7030007230	S.RESISTOR	ERA3YED 102V
R14	7030007230	S.RESISTOR	ERA3YED 102V
R15	7030007230	S.RESISTOR	ERA3YED 102V
R18	7030007210	S.RESISTOR	ERA3YEB 102V
R17	7030007210	S.RESISTOR	ERA3YEB 102V
R18	7030007210	S.RESISTOR	ERA3YEB 102V
R18	7030007210	S.RESISTOR	ERA3YEB 102V
R20	7030007210	S.RESISTOR	ERA3YEB 102V
R21	7030007220	S.RESISTOR	ERA3YED 202V
R22	7030007220	S.RESISTOR	ERA3YED 202V

S.=Surface mount

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R23	7030007220	S.RESISTOR	ERA3YEO 202V
R24	7030007220	S.RESISTOR	ERA3YEO 202V
R25	7030007220	S.RESISTOR	ERA3YEO 202V
R26	7030007220	S.RESISTOR	ERA3YEO 202V
R27	7030007220	S.RESISTOR	ERA3YEO 202V
R28	7030007220	S.RESISTOR	ERA3YEO 202V
R29	7030007200	S.RESISTOR	ERA3YEB 202V
R30	7030007200	S.RESISTOR	ERA3YEB 202V
R31	7030007200	S.RESISTOR	ERA3YEB 202V
R32	7030007200	S.RESISTOR	ERA3YEB 202V
R33	7030007200	S.RESISTOR	ERA3YEB 202V
R34	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R35	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R41	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R42	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R43	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R44	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R45	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R48	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R47	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R48	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R48	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R50	7030003580	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R51	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R52	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R54	7030003290	S.RESISTOR	ERJ3GEYJ 560 V (58 Ω)
R57	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R58	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R58	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R66	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R67	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R88	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R88	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R70	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R72	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R77	7030003880	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R79	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R80	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R81	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R62	7030003420	S.RESISTOR	ERJ3GEYJ 881 V (880 Ω)
R83	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R84	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R85	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R86	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R87	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R88	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R81	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R82	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R83	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R84	7030003450	S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ)
R85	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R98	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R100	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R108	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R118	7030003420	S.RESISTOR	ERJ3GEYJ 881 V (880 Ω)
R117	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R118	7030003300	S.RESISTOR	ERJ3GEYJ 880 V (88 Ω)
R119	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R120	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R121	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R122	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (180 Ω)
R123	7030003280	S.RESISTOR	ERJ3GEYJ 330 V (33 Ω)
R124	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (180 Ω)
R125	7030003420	S.RESISTOR	ERJ3GEYJ 881 V (880 Ω)
R127	7030003420	S.RESISTOR	ERJ3GEYJ 881 V (880 Ω)
R129	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R130	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R131	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R133	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R135	7030003460	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R138	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R140	7030007220	S.RESISTOR	ERA3YEO 202V
R141	7030007220	S.RESISTOR	ERA3YEO 202V
R142	7030007220	S.RESISTOR	ERA3YEO 202V
R143	7030007220	S.RESISTOR	ERA3YEO 202V
R144	7030007220	S.RESISTOR	ERA3YEO 202V

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R145	7030007220	S.RESISTOR	ERA3YED 202V
R146	7030007220	S.RESISTOR	ERA3YEO 202V
R147	7030007200	S.RESISTOR	ERA3YEB 202V
R148	7030007200	S.RESISTOR	ERA3YEB 202V
R150	7030007220	S.RESISTOR	ERA3YED 202V
R151	7030007230	S.RESISTOR	ERA3YEO 102V
R152	7030007230	S.RESISTOR	ERA3YEO 102V
R153	7030007230	S.RESISTOR	ERA3YEO 102V
R154	7030007230	S.RESISTOR	ERA3YEO 102V
R155	7030007230	S.RESISTOR	ERA3YEO 102V
R158	7030007230	S.RESISTOR	ERA3YEO 102V
R157	7030007210	S.RESISTOR	ERA3YE8 102V
R158	7030007210	S.RESISTOR	ERA3YEB 102V
R159	7030007210	S.RESISTOR	ERA3YEB 102V
R160	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R161	7030003710	S.RESISTOR	ERJ3GEYJ 184 V (180 kΩ)
R182	7030003420	S.RESISTOR	ERJ3GEYJ 881 V (680 Ω)
R183	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R164	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R166	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R176	7030003860	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R178	7030007220	S.RESISTOR	ERA3YEO 202V
R180	7030007220	S.RESISTOR	ERA3YED 202V
R181	7030007220	S.RESISTOR	ERA3YEO 202V
R182	7030007220	S.RESISTOR	ERA3YEO 202V
R183	7030007220	S.RESISTOR	ERA3YEO 202V
R184	7030007220	S.RESISTOR	ERA3YEO 202V
R185	7030007220	S.RESISTOR	ERA3YED 202V
R166	7030007200	S.RESISTOR	ERA3YEB 202V
R187	7030007200	S.RESISTOR	ERA3YE8 202V
R168	7030007200	S.RESISTOR	ERA3YEB 202V
R169	7030007220	S.RESISTOR	ERA3YEO 202V
R100	7030007230	S.RESISTOR	ERA3YED 102V
R161	7030007230	S.RESISTOR	ERA3YEO 102V
R182	7030007230	S.RESISTOR	ERA3YEO 102V
R183	7030007230	S.RESISTOR	ERA3YEO 102V
R184	7030007230	S.RESISTOR	ERA3YEO 102V
R185	7030007230	S.RESISTOR	ERA3YED 102V
R186	7030007210	S.RESISTOR	ERA3YEB 102V
R197	7030007210	S.RESISTOR	ERA3YEB 102V
R168	7030007210	S.RESISTOR	ERA3YEB 102V
R199	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R200	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R201	7030003710	S.RESISTOR	ERJ3GEYJ 184 V (180 kΩ)
R202	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R203	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R207	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R212	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R213	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R214	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R215	7030007510	S.RESISTOR	ERJ12YJ270H (27 Ω)
R216	7030007510	S.RESISTOR	ERJ12YJ270H (27 Ω)
R217	7030007510	S.RESISTOR	ERJ12YJ270H (27 Ω)
R222	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R223	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R224	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R225	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R226	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R227	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R228	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R231	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R232	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R237	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R238	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R240	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R241	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R243	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R244	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R245	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R246	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R247	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 kΩ)
R248	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R249	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R250	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R251	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)

S.=Surface mount

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R252	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R253	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R254	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R255	7030003450	S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ)
R256	7030003510	S.RESISTOR	ERJ3GEYJ 382 V (3.8 kΩ)
R257	7510000880	S.THERMISTOR	NTCCF2012 3FH 222KC-T
R258	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R258	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R280	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R281	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R282	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R283	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R288	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R287	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R268	7030003820	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R288	7030003550	S.RESISTOR	ERJ3GEYJ 622 V (8.2 kΩ)
R270	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R271	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R272	7030003420	S.RESISTOR	ERJ3GEYJ 661 V (680 Ω)
R273	7030003420	S.RESISTOR	ERJ3GEYJ 661 V (680 Ω)
R274	7030003420	S.RESISTOR	ERJ3GEYJ 661 V (680 Ω)
R275	7030003420	S.RESISTOR	ERJ3GEYJ 661 V (680 Ω)
R276	7030003420	S.RESISTOR	ERJ3GEYJ 661 V (680 Ω)
R277	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R278	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R278	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R280	7030003530	S.RESISTOR	ERJ3GEYJ 582 V (5.8 kΩ)
R281	7030003480	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R282	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R283	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R284	7030003230	S.RESISTOR	ERJ3GEYJ 160 V (18 Ω)
R285	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R288	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R287	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R288	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R288	7030003460	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R290	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R281	7030003530	S.RESISTOR	ERJ3GEYJ 582 V (5.8 kΩ)
R282	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R283	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R294	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R295	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R288	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R297	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R288	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R209	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R300	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R301	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
C1	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C2	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C3	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C4	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C5	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C8	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C11	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C12	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C13	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C14	4030008920	S.CERAMIC	C1808 JB 1C 473K-T-A
C15	4030008620	S.CERAMIC	C1808 JB 1C 473K-T-A
C16	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C17	4030008620	S.CERAMIC	C1808 JB 1C 473K-T-A
C18	4030008620	S.CERAMIC	C1808 JB 1C 473K-T-A
C18	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C18	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C20	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C21	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C22	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C23	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C24	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C25	4030008900	S.CERAMIC	C1808 JB 1E 103K-T-A
C28	4030008800	S.CERAMIC	C1808 JB 1E 103K-T-A
C28	4030010210	S.CERAMIC	C3218 JB 1C 105M-T-A
C30	4550003220	S.TANTALUM	TEMSSVA 1E 105M-6L
C31	455000510	S.TANTALUM	TESVA 1V 473M1-8L
C32	4030008810	S.CERAMIC	C1808 CH 1H 040B-T-A

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C33	4030007090	S.CERAMIC	C1808 CH 1H 470J-T-A
C34	4030008820	S.CERAMIC	C1608 JB 1C 473K-T-A
C35	4030007150	S.CERAMIC	C1808 CH 1H 151J-T-A
C38	4510008220	S.ELECTROLITIC	ECEV1CA101UP
C37	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A
C38	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C40	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C41	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C42	4030007150	S.CERAMIC	C1808 CH 1H 151J-T-A
C43	4030010040	S.CERAMIC	C1808 JB 1H 881K-T-A
C44	4030006580	S.CERAMIC	C1808 CH 1H 881K-T-A
C45	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C46	4030007080	S.CERAMIC	C1808 CH 1H 470J-T-A
C48	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C48	4030010210	S.CERAMIC	C3218 JB 1C 105M-T-A
C50	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C51	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C52	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C53	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C57	4550003220	S.TANTALUM	TEMSSVA 1E 105M-6L
C58	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C60	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C61	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C82	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C83	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C86	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C70	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C71	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C72	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C73	4030010210	S.CERAMIC	C3218 JB 1C 105M-T-A
C74	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C75	4510008220	S.ELECTROLITIC	ECEV1CA101UP
C78	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C77	4510008220	S.ELECTROLITIC	ECEV1CA101UP
C78	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C79	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C80	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C81	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C82	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C83	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C84	4030008810	S.CERAMIC	C1808 CH 1H 040B-T-A
C85	4030008520	S.CERAMIC	C1808 CH 1H 020B-T-A
C88	4030008540	S.CERAMIC	C1808 CH 1H 1R5B-T-A
C86	4030008890	S.CERAMIC	C1808 CH 1H 080D-T-A
C86	4030007030	S.CERAMIC	C1808 CH 1H 150J-T-A
C80	4030007080	S.CERAMIC	C1808 CH 1H 470J-T-A
C81	4030008520	S.CERAMIC	C1808 CH 1H 020B-T-A
C92	4030008520	S.CERAMIC	C1808 CH 1H 020B-T-A
C83	4030008810	S.CERAMIC	C1808 CH 1H 040B-T-A
C84	4030008510	S.CERAMIC	C1808 CH 1H 010B-T-A
C85	4030008810	S.CERAMIC	C1808 CH 1H 040B-T-A
C87	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C88	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C89	4030010210	S.CERAMIC	C3218 JB 1C 105M-T-A
C100	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C101	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C102	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C103	4550000550	S.TANTALUM	TESVA 1V 224M1-8L
C104	4550000550	S.TANTALUM	TESVA 1V 224M1-8L
C105	4550000510	S.TANTALUM	TESVA 1V 473M1-8L
C108	4550000510	S.TANTALUM	TESVA 1V 473M1-8L
C107	4510005830	S.ELECTROLITIC	ECEV1EA330SP
C108	4510008220	S.ELECTROLITIC	ECEV1CA101UP
C117	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C118	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C118	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C121	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C122	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C123	4510005830	S.ELECTROLITIC	ECEV1EA330SP
C131	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C132	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C133	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C134	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C135	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C137	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C138	4030007000	S.CERAMIC	C1808 CH 1H 080D-T-A

S.=Surface mount

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C140	4030009550	S.CERAMIC	C1808 CH 1H 2R5B-T-A
C141	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C142	4030009540	S.CERAMIC	C1808 CH 1H 1R5B-T-A
C143	4030008880	S.CERAMIC	C1808 CH 1H 080D-T-A
C145	4030008870	S.CERAMIC	C1808 CH 1H 080D-T-A
C148	4030009500	S.CERAMIC	C1808 CH 1H 0R5B-T-A
C147	4030008980	S.CERAMIC	C1808 CH 1H 070D-T-A
C148	4030008570	S.CERAMIC	C1808 CH 1H 0R3B-T-A
C146	4030008530	S.CERAMIC	C1808 CH 1H 030B-T-A
C151	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C153	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C154	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C155	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C156	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C158	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C158	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C160	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C161	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C162	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C163	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C184	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C185	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C188	4030007100	S.CERAMIC	C1808 CH 1H 580J-T-A
C167	4030007020	S.CERAMIC	C1808 CH 1H 120J-T-A
C168	4030008350	S.CERAMIC	C1808 CH 1H 3R5B-T-A
C169	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C170	4030006540	S.CERAMIC	C1808 CH 1H 1R5B-T-A
C171	4030007020	S.CERAMIC	C1808 CH 1H 120J-T-A
C172	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C173	4030006600	S.CERAMIC	C1808 JB 1E 103K-T-A
C175	4030006680	S.CERAMIC	C1808 JB 1H 472K-T-A
C177	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C181	4030006680	S.CERAMIC	C1808 JB 1H 472K-T-A
C182	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C164	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C185	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C188	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C187	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C198	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C186	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C200	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C201	4030008880	S.CERAMIC	C1808 JB 1H 682K-T-A
C202	4030008880	S.CERAMIC	C1808 JB 1H 152K-T-A
C203	4030010780	S.CERAMIC	C1808 CH 1H 331J-T-A
C204	4030007110	S.CERAMIC	C1808 CH 1H 680J-T-A
C205	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C206	4030007060	S.CERAMIC	C1808 CH 1H 270J-T-A
C207	4030010780	S.CERAMIC	C1808 CH 1H 331J-T-A
C208	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C209	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C211	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A
C212	4030008800	S.CERAMIC	C1808 JB 1E 103K-T-A
C213	4030008800	S.CERAMIC	C1808 JB 1E 103K-T-A
C217	4030008800	S.CERAMIC	C1808 JB 1E 103K-T-A
C216	4030008800	S.CERAMIC	C1808 JB 1E 103K-T-A
C216	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C220	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C221	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C222	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C223	4030006860	S.CERAMIC	C1808 JB 1H 102K-T-A
C227	4030006820	S.CERAMIC	C1808 JB 1C 473K-T-A
C226	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C226	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C230	4030006820	S.CERAMIC	C1808 JB 1C 473K-T-A
C231	4030006860	S.CERAMIC	C1808 JB 1H 102K-T-A
C232	4030006860	S.CERAMIC	C1808 JB 1H 472K-T-A
C233	4030006460	S.CERAMIC	GRM42-8 B 104K 50PT
C234	4510005830	S.ELECTROLITIC	ECEV1EA330SP
C235	4030006480	S.CERAMIC	GRM42-8 B 104K 50PT
C236	4510005830	S.ELECTROLITIC	ECEV1EA330SP
C237	4030006860	S.CERAMIC	C1808 JB 1H 102K-T-A
C238	4030009570	S.CERAMIC	C1808 CH 1H 0R3B-T-A
C240	4030009550	S.CERAMIC	C1808 CH 1H 2R5B-T-A
C242	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C243	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C244	4030006920	S.CERAMIC	C1808 JB 1C 473K-T-A

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C246	4550006050	S.TANTALUM	TEMSVA 0J 106M6L
C247	4030009660	S.CERAMIC	C1808 JB 1H 102K-T-A
C248	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C250	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C251	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C252	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C253	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C254	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C255	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C256	4550006050	S.TANTALUM	TEMSVA 0J 106M8L
C257	4550006050	S.TANTALUM	TEMSVA 0J 106M8L
C258	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C263	4030008620	S.CERAMIC	C1808 CH 1H 050B-T-A
C284	4030008530	S.CERAMIC	C1808 CH 1H 030B-T-A
C265	4030006620	S.CERAMIC	C1808 CH 1H 050B-T-A
C286	4030008540	S.CERAMIC	C1808 CH 1H 1R5B-T-A
C287	4030006810	S.CERAMIC	C1808 CH 1H 040B-T-A
C266	4030007180	S.CERAMIC	C1808 CH 1H 181J-T-A
C270	4030008770	S.CERAMIC	C1808 JB 1H 582K-T-A
C271	4550003220	S.TANTALUM	TEMSVA 1E 105M-8L
C281	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C282	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C283	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C284	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C285	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C286	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C287	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C288	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C289	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C290	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C300	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C301	4030006860	S.CERAMIC	C1808 JB 1H 102K-T-A
C302	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C303	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C304	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C305	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C306	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C307	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C308	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C309	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C310	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C311	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C312	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C313	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C314	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C315	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C316	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C317	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C318	4030006860	S.CERAMIC	C1808 CH 1H 100D-T-A
C320	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C321	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C322	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C323	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C324	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C325	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C326	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C327	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C328	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C329	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C330	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C331	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C332	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C333	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C334	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C335	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C336	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A

S.=Surface mount

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C337	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C338	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C336	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C340	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C341	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C342	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C343	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C344	4030007020	S.CERAMIC	C1606 CH 1H 120J-T-A
C345	4030007130	S.CERAMIC	C1606 CH 1H 101J-T-A
C346	4030006860	S.CERAMIC	C1606 CH 1H 200J-T-A
C347	4030006860	S.CERAMIC	C1606 JB 1H 472K-T-A
C346	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C346	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C350	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C351	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C352	4510006670	S.ELECTROLITIC	ECEV1CA471P
C353	4550006050	S.TANTALUM	TEMSVA 0J 106M6L
C354	4550006050	S.TANTALUM	TEMSVA 0J 106M8L
C355	4030007070	S.CERAMIC	C1606 CH 1H 330J-T-A
C356	4550000550	S.TANTALUM	TESVA 1V 224M1-8L
C356	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C356	4030007090	S.CERAMIC	C1606 CH 1H 470J-T-A
C360	4030011260	S.CERAMIC	C1606 CH 1H 271J-T-A
C361	4030006560	S.CERAMIC	C1606 JB 1H 661K-T-A
C362	4030006850	S.CERAMIC	C1606 JB 1H 471K-T-A
C363	4030007140	S.CERAMIC	C1606 CH 1H 121J-T-A
C364	4030007140	S.CERAMIC	C1606 CH 1H 121J-T-A
C365	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C366	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C367	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C366	4030006880	S.CERAMIC	C1606 JB 1H 472K-T-A
C369	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C370	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C371	4530000410	S.ARRAY	EZANCE 471M 470P
C372	4530000410	S.ARRAY	EZANCE 471M 470P
C373	4530000400	S.ARRAY	EZANCE 220M 22P
C374	4030011600	S.CERAMIC	C1606 JB 1C 104KT-N
C375	4030009530	S.CERAMIC	C1606 CH 1H 030B-T-A
C376	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C377	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C376	4030006860	S.CERAMIC	C1606 CH 1H 070D-T-A
C376	4030006860	S.CERAMIC	C1606 CH 1H 060D-T-A
C380	4030006530	S.CERAMIC	C1606 CH 1H 030B-T-A
C381	4030007000	S.CERAMIC	C1606 CH 1H 080D-T-A
C362	4030006550	S.CERAMIC	C1606 CH 1H 2R5B-T-A
C383	4030007100	S.CERAMIC	C1606 CH 1H 560J-T-A
C384	4030006350	S.CERAMIC	C1606 CH 1H 3R5B-T-A
C385	4030006950	S.CERAMIC	C1606 CH 1H 2R5B-T-A
C386	4030006520	S.CERAMIC	C1606 CH 1H 020B-T-A
C367	4030006970	S.CERAMIC	C1606 CH 1H 080D-T-A
C366	4030006500	S.CERAMIC	C1606 CH 1H 0R5B-T-A
C369	4030006970	S.CERAMIC	C1606 CH 1H 080O-T-A
C360	4030006570	S.CERAMIC	C1606 CH 1H 0R3B-T-A
C391	4030006350	S.CERAMIC	C1606 CH 1H 3R5B-T-A
C362	4030006880	S.CERAMIC	C1606 JB 1H 102K-T-A
C393	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C394	4030008750	S.CERAMIC	C1606 CH 1H 380J-T-A
C365	4030007020	S.CERAMIC	C1606 CH 1H 120J-T-A
C366	4030007070	S.CERAMIC	C1606 CH 1H 330J-T-A
C397	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C366	4030007060	S.CERAMIC	C1606 CH 1H 380J-T-A
C369	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C400	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C401	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C402	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C403	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C404	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C405	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C406	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C407	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C406	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C406	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C410	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C411	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C412	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C413	4030006860	S.CERAMIC	C1606 JB 1E 103K-T-A

[PLL UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C414	4030006890	S.CERAMIC	C1606 CH 1H 080D-T-A
C415	4030007110	S.CERAMIC	C1606 CH 1H 680J-T-A
C416	4030007140	S.CERAMIC	C1606 CH 1H 121J-T-A
C417	4030007030	S.CERAMIC	C1606 CH 1H 150J-T-A
C418	4030007130	S.CERAMIC	C1606 CH 1H 101J-T-A
C416	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C420	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C421	4030007000	S.CERAMIC	C1606 CH 1H 090D-T-A
C422	4030007110	S.CERAMIC	C1606 CH 1H 680J-T-A
C423	4030007030	S.CERAMIC	C1606 CH 1H 150J-T-A
C424	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C425	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C426	4030009530	S.CERAMIC	C1606 CH 1H 030B-T-A
C427	4030007060	S.CERAMIC	C1606 CH 1H 270J-T-A
C428	4030008620	S.CERAMIC	C1606 CH 1H 050B-T-A
C428	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C430	4030008620	S.CERAMIC	C1606 JB 1C 473K-T-A
C431	4510004630	S.ELECTRDLITIC	ECEV1CA100SR
C432	4030006920	S.CERAMIC	C1606 JB 1C 473K-T-A
C433	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C434	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C435	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C436	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C437	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C438	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C439	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C440	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C441	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C442	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C443	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C444	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C445	4550006050	S.TANTALUM	TEMSVA 0J 108M8L
C446	4030011600	S.CERAMIC	C1606 JB 1C 104KT-N
C447	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C448	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C449	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C450	4030006860	S.CERAMIC	C1606 JB 1H 102K-T-A
C451	4030007170	S.CERAMIC	C1606 CH 1H 221J-T-A
C454	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C455	4550000510	S.TANTALUM	TESVA 1V 473M1-8L
C456	4030006860	S.CERAMIC	C1606 JB 1E 103K-T-A
C456	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C457	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C458	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C458	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C459	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C460	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C461	4030007090	S.CERAMIC	C1606 CH 1H 470J-T-A
C462	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C463	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
J7	6510006360	CONNECTOR	TMP-J02X-A1
W21	8800004510	CABLE	DPC-452 A
WS1	8800035470		P01XJ01PL
WS4	8800035460		J05PL
EP1	0910046243	PCB	B 4676C

[VCO-A BOARD]

REF. NO.	ORDER ND.	DESCRIPTION	
Q1	1580000650	S.FET	2SK1577-2-T7
Q2	1530003450	S.TRANSISTDR	2SC4835-R(TX)
Q3	1580000650	S.FET	2SK1577-2-T7
Q4	1530003450	S.TRANSISTOR	2SC4835-R(TX)

S.=Surface mount

## [VCO-A BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	
O1	1720000440	S.VARICAP	1T362A-08-T8B
D2	1720000440	S.VARICAP	1T382A-08-T8B
D3	1720000440	S.VARICAP	1T362A-08-T8B
D4	1720000440	S.VARICAP	1T362A-08-T8B
O5	1750000530	S.DIOOE	1SV271 (TPH3)
D8	1720000440	S.VARICAP	1T382A-08-T8B
O7	1720000440	S.VARICAP	1T362A-08-T8B
O8	1780000540	S.VARICAP	MA336(TX)
D8	1790000540	S.VARICAP	MA338(TX)
D10	1750000530	S.DIODE	1SV271 (TPH3)
L1	6200003000	S.COIL	NL 322522T-R22J-3
L3	6200003330	S.COIL	NL 322522T-1R0J-3
L4	8200003250	S.COIL	NL 322522T-R36J-3
L5	8200003330	S.COIL	NL 322522T-1R0J-3
L6	6200003330	S.COIL	NL 322522T-1R0J-3
L7	6200003000	S.COIL	NL 322522T-R22J-3
L8	6200003330	S.COIL	NL 322522T-1R0J-3
L10	8200003250	S.COIL	NL 322522T-R36J-3
L11	6200003330	S.COIL	NL 322522T-1R0J-3
L12	6200000800	S.COIL	LON 2A R22K 14
L13	6200002400	S.COIL	LON 1A R10J04
R2	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R3	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R4	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R5	7030003510	S.RESISTOR	ERJ3GEYJ 382 V (3.8 kΩ)
R6	7030003480	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R7	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R8	7030003480	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R10	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R11	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R12	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R13	7030003510	S.RESISTOR	ERJ3GEYJ 382 V (3.8 kΩ)
R14	7030003480	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R15	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
C1	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C2	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C4	4030006650	S.CERAMIC	C1606 JB 1H 471K-T-A
C5	4030008650	S.CERAMIC	C1606 JB 1H 471K-T-A
C6	4030009530	S.CERAMIC	C1808 CH 1H 030B-T-A
C7	4030009530	S.CERAMIC	C1606 CH 1H 030B-T-A
C8	4030008500	S.CERAMIC	C1808 CH 1H 0R5B-T-A
C6	4510008220	S.ELECTROLITIC	ECEV1CA101UP
C10	4030008650	S.CERAMIC	C1808 JB 1H 471K-T-A
C11	4030006650	S.CERAMIC	C1808 JB 1H 471K-T-A
C12	4030008870	S.CERAMIC	C1808 CH 1H 0600-T-A
C13	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C14	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C15	4030008530	S.CERAMIC	C1606 CH 1H 030B-T-A
C18	4030009530	S.CERAMIC	C1606 CH 1H 030B-T-A
C17	4030009500	S.CERAMIC	C1606 CH 1H 0RSB-T-A
C18	4510008220	S.ELECTROLITIC	ECEV1CA101UP
C16	4030006680	S.CERAMIC	C1808 JB 1H 102K-T-A
C20	4030008870	S.CERAMIC	C1606 CH 1H 0600-T-A
C24	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C25	4030007050	S.CERAMIC	C1608 CH 1H 220J-T-A
C26	4030006660	S.CERAMIC	C1606 JB 1H 102K-T-A
C27	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C28	4030006680	S.CERAMIC	C1808 JB 1H 102K-T-A
C29	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C30	4030006660	S.CERAMIC	C1808 JB 1H 472K-T-A
C31	4030006660	S.CERAMIC	C1606 JB 1H 472K-T-A
J1	6510004880	CONNECTOR	3022-02B
J3	8610008020	CONNECTOR	IPS-1323
J4	6510004960	CONNECTOR	3022-02B
J5	8810006020	CONNECTOR	IPS-1323
EP1	0910046272	PCB	B 4861B
EP2	0610012841	PCB	B 1100A

## [VCO-B BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	
Q1	1530003450	S.TRANSISTOR	2SC4635-R(TX)
Q2	1560000680	S.TRANSISTOR	DTC114EU T107
Q3	1530003450	S.TRANSISTOR	2SC4635-R(TX)
Q4	1590000680	S.TRANSISTOR	OTC114EU T107
O1	1720000270	S.VARICAP	1SV217 (TPH2)
O2	1720000270	S.VARICAP	1SV217 (TPH2)
D3	1720000270	S.VARICAP	1SV217 (TPH2)
D4	1750000530	S.DIOOE	1SV271 (TPH3)
DS	1750000210	S.DIODE	1SV237 (TE85R)
D6	1720000440	S.VARICAP	1T362A-06-T8B
L1	6200002880	S.COIL	NL 322522T-2R2J-3
L2	8200008180	S.COIL	LQP21A 66NG14
L3	8200008180	S.COIL	LQP21A 66NG14
L4	6200006140	S.COIL	LQP21A 38NG14
L5	6200002990	S.COIL	NL 322522T-2R2J-3
L8	6200002690	S.COIL	NL 322522T-2R2J-3
L7	6200003000	S.COIL	NL 322522T-R22J-3
L6	6200008050	S.COIL	LQP11A 6N6C14
L9	6200003000	S.COIL	NL 322522T-R22J-3
L10	8200003000	S.COIL	NL 322522T-R22J-3
R1	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R2	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R3	7030003480	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R4	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R6	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R7	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R8	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R9	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R10	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R11	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R12	7030003490	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R13	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R15	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (160 Ω)
R16	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R17	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
C1	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C2	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C3	4030006620	S.CERAMIC	C1808 CH 1H 050B-T-A
C4	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C5	4030006880	S.CERAMIC	C1606 JB 1H 102K-T-A
C8	4030008510	S.CERAMIC	C1608 CH 1H 010B-T-A
C7	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C6	4030008880	S.CERAMIC	C1606 JB 1H 102K-T-A
C6	4030006680	S.CERAMIC	C1808 JB 1H 102K-T-A
C10	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A
C11	4030006880	S.CERAMIC	C1808 JB 1H 102K-T-A
C12	4030006880	S.CERAMIC	C1608 JB 1H 102K-T-A
C13	4030006860	S.CERAMIC	C1808 JB 1H 102K-T-A
C14	4030011600	S.CERAMIC	C1606 JB 1C 104KT-N
C15	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C16	4030009920	S.CERAMIC	C1608 CH 1H 050B-T-A
C17	4030008810	S.CERAMIC	C1808 CH 1H 040B-T-A
C18	4030008530	S.CERAMIC	C1606 CH 1H 030B-T-A
C20	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C21	4030011800	S.CERAMIC	C1606 JB 1C 104KT-N
C22	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C23	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C24	4030006880	S.CERAMIC	C1606 JB 1H 102K-T-A
C25	4030006540	S.CERAMIC	C1608 CH 1H 1R5B-T-A
C26	4550003220	S.TANTALUM	TEMSVA 1E 105M-8L
J1	651000780	CONNECTOR	3022-02A
J2	6510004600	CONNECTOR	3022-05A
EP1	0910047262	PCB	B 4788B

S.=Surface mount

[MAIN UNIT]

REF. ND.	ORDER NO.	DESCRIPTION	
IC2	1110004070	S.I.C	MC3358DW
IC4	1110003800	S.I.C	NJM2804V-TE1
IC5	1110003870	S.I.C	μPC1858G-E1
IC8	1110003350	S.I.C	μPC1037GR-E1(MS)
IC7	1110003350	S.I.C	μPC1037GR-E1(MS)
IC8	1110003571	S.I.C	MC3372SVMEL
IC8	1110000880	S.I.C	NJM4558M(T1)
IC10	1110003800	S.I.C	NJM2804V-TE1
IC11	1130001230	S.I.C	μPD4001BG-T1
IC12	1110003800	S.I.C	NJM2804V-TE1
IC13	1110003800	S.I.C	NJM2804V-TE1
IC15	1130007700	S.I.C	BU4084BCF-T1
IC16	1130007700	S.I.C	BU4094BCF-T1
IC17	1180001070	S.I.C	TA7805F(TE18L)
IC18	1130007700	S.I.C	BU4084BCF-T1
IC19	1130007890	S.I.C	BU4088BCF-T1
IC20	1110003300	S.I.C	M5282FP 70CD
IC21	1110000880	IC	μPC1241H
IC22	1180001530	IC	PD30RV31
IC23	1110002030	IC	TA7808S
IC24	1180001250	S.I.C	TA7808F(TE18L)
IC25	1180001510	S.I.C	AN78124M-(E1)
IC28	1180001500	S.I.C	AN79108M-(E1)
IC27	1130005720	S.I.C	TC7W04F (TE12L)
IC28	1120002510	S.I.C	DS14C232TM
IC28	1130007880	S.I.C	BU4053BCF-T1
IC30	1130007880	S.I.C	BU4053BCF-T1
IC31	1110003780	S.I.C	NJM2802V-TE1
IC32	1110003800	S.I.C	NJM2804V-TE1
IC33	1140008180	S.I.C	HD6433334YL02F
IC34	1140005810	S.I.C	HN58C258FP-20
IC35	1130000590	S.I.C	μPD4081BG-T1
IC37	1110001550	S.I.C	S-8054ALB-LM-T1
IC38	1180001070	S.I.C	TA7805F(TE18L)
IC39	1130008120	S.I.C	X9C503S-T
IC40	1130005580	S.I.C	TC74HC88AF
IC41	1130005120	S.I.C	TC74HC74AF (TP1)
IC42	1110001550	S.I.C	S-8054ALB-LM-T1
IC43	1130005840	S.I.C	TC4W53F (TE12L)
Q1	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q2	1580000540	S.FET	3SK131-T2-LA
Q3	1580001330	S.TRANSISTOR	DTA114EU T107
Q4	1580000540	S.FET	3SK131-T2-LA
Q5	1530002080	S.TRANSISTOR	2SC3850-TD
Q8	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q7	1500001770	S.TRANSISTOR	XP1213(TX)
Q8	1590002010	S.TRANSISTOR	XP1114(TX)
Q9	1580000500	S.FET	2SK882-GR (TE85L)
Q10	1590001850	S.TRANSISTOR	XP4801(TX)
Q11	1580000580	S.FET	2SK882-GR (TE85L)
Q12	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q13	1590001980	S.TRANSISTOR	XP4311(TX)
Q14	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q15	1580000540	S.FET	3SK131-T2-LA
Q18	1580000540	S.FET	3SK131-T2-LA
Q17	1580000540	S.FET	3SK131-T2-LA
Q18	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q20	1590000430	S.TRANSISTOR	DTC144EU T107
Q21	1510000770	S.TRANSISTOR	2SA1588-GR (TE85R)
Q23	1510000770	S.TRANSISTOR	2SA1588-GR (TE85R)
Q25	1590001330	S.TRANSISTOR	DTA114EU T107
Q26	1590001770	S.TRANSISTOR	XP1213(TX)
Q27	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q28	1590001450	S.FET	2SJ144-GR (TE85R)
Q28	1580001770	S.TRANSISTOR	XP1213(TX)
Q30	1580000430	S.TRANSISTOR	DTC144EU T107
Q31	1580000430	S.TRANSISTOR	DTC144EU T107
Q32	1580001330	S.TRANSISTOR	DTA114EU T107
Q33	1580001770	S.TRANSISTOR	XP1213(TX)
Q34	1590001770	S.TRANSISTOR	XP1213(TX)
Q35	1590001000	S.TRANSISTOR	RN2427 (TE85R)
Q36	1590000430	S.TRANSISTOR	DTC144EU T107
Q37	1590001770	S.TRANSISTOR	XP1213(TX)
Q38	1580001000	S.TRANSISTOR	RN2427 (TE85R)

[MAIN UNIT]

REF. ND.	ORDER NO.	DESCRIPTION	
Q40	1580001770	S.TRANSISTOR	XP1213(TX)
Q41	1580002010	S.TRANSISTOR	XP1114(TX)
Q42	1580001770	S.TRANSISTOR	XP1213(TX)
Q43	1580002010	S.TRANSISTOR	XP1114(TX)
Q44	1580001770	S.TRANSISTOR	XP1213(TX)
Q45	1580002010	S.TRANSISTOR	XP1114(TX)
Q48	1580001330	S.TRANSISTOR	DTA114EU T107
Q47	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q48	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q49	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q50	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q51	1530002800	S.TRANSISTOR	2SC2873-Y (TE12RC)
Q52	1530002800	S.TRANSISTOR	2SC2873-Y (TE12RC)
Q53	1580001850	S.TRANSISTOR	XP4801(TX)
Q54	1580001770	S.TRANSISTOR	XP1213(TX)
Q55	1590001330	S.TRANSISTOR	DTA114EU T107
Q58	1580001330	S.TRANSISTOR	DTA114EU T107
Q57	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q58	1580001860	S.TRANSISTOR	XP4311(TX)
Q58	1580000430	S.TRANSISTOR	DTC144EU T107
Q80	1580000430	S.TRANSISTOR	DTC144EU T107
Q81	1590000430	S.TRANSISTOR	DTC144EU T107
Q82	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q83	1580000430	S.TRANSISTOR	DTC144EU T107
Q84	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q85	1580000580	S.FET	2SK882-GR (TE85L)
Q88	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q67	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q88	1580000430	S.TRANSISTOR	DTC144EU T107
D1	1780000450	S.DIODE	MA882(TX)
D2	1780000450	S.DIODE	MA882(TX)
D3	1780000450	S.DIODE	MA882(TX)
D4	1750000550	S.DIODE	ISS355 TE-17
D5	1750000110	S.DIODE	ISS272 (TE85R)
D6	1780000450	S.DIODE	MA882(TX)
D7	1780000450	S.DIODE	MA882(TX)
D8	1780000450	S.DIODE	MA882(TX)
D9	1780000450	S.DIODE	MA882(TX)
D10	1780001210	S.DIODE	ISS375-TL
D11	1780000450	S.DIODE	MA882(TX)
D12	1780000450	S.DIODE	MA882(TX)
D13	1780000450	S.DIODE	MA882(TX)
D14	1780000450	S.DIODE	MA882(TX)
D15	1780001210	S.DIODE	ISS375-TL
D18	1780001210	S.DIODE	ISS375-TL
D17	1750000550	S.DIODE	ISS355 TE-17
D18	1750000520	S.DIODE	DAN222TL
D18	1750000110	S.DIODE	ISS272 (TE85R)
D20	1780001210	S.DIODE	ISS375-TL
D21	1750000520	S.DIODE	DAN222TL
D23	1750000550	S.DIODE	ISS355 TE-17
D24	1750000520	S.DIODE	DAN222TL
D25	1750000110	S.DIODE	ISS272 (TE85R)
D28	1750000520	S.DIODE	DAN222TL
D27	1750000550	S.DIODE	ISS355 TE-17
D28	1750000520	S.DIODE	DAN222TL
D28	1750000550	S.DIODE	ISS355 TE-17
D31	1750000520	S.DIODE	DAN222TL
D32	1750000520	S.DIODE	DAN222TL
D33	1750000550	S.DIODE	ISS355 TE-17
D34	1780000700	DIODE	DSA3A1
D35	1780000700	DIODE	DSA3A1
D38	1750000550	S.DIODE	ISS355 TE-17
D38	1750000110	S.DIODE	ISS272 (TE85R)
D40	1750000110	S.DIODE	ISS272 (TE85R)
D41	1750000110	S.DIODE	ISS272 (TE85R)
D42	1750000110	S.DIODE	ISS272 (TE85R)

S.=Surface mount

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
D43	1750000550	S.DIODE	1SS355 TE-17
D44	1750000110	S.DIODE	1SS272 (TE85R)
D45	1750000550	S.DIODE	1SS355 TE-17
D46	1750000550	S.DIODE	1SS355 TE-17
D47	1750000110	S.DIODE	1SS272 (TE85R)
D48	1750000520	S.DIODE	DAN222TL
D54	1730000430	S.ZENER	RD10M-T2B2
D55	1750000550	S.DIODE	1SS355 TE-17
D58	1710000640	S.DIODE	1SR154-400 TE25
D57	1710000840	S.DIODE	1SR154-400 TE25
D59	1750000550	S.DIODE	1SS355 TE-17
D80	1750000550	S.DIODE	1SS355 TE-17
D61	1780000450	S.DIODE	MA682(TX)
D62	1750000520	S.DIODE	DAN222TL
D63	1750000520	S.DIODE	DAN222TL
D84	1750000550	S.DIODE	1SS355 TE-17
D65	1750000550	S.DIODE	1SS355 TE-17
D68	1750000550	S.DIODE	1SS355 TE-17
FI1	2020001170	S.CERAMIC	SFECA10.7MS2-A
FI2	2020001170	S.CERAMIC	SFECA10.7MS2-A
FI3	201000080	FILTER	10M15BA (FL-75)
FI4	202000210	CERAMIC	CFJ455K5 (FL-65)
FI5	2020001180	S.CERAMIC	SFPC455H-TC01
FI6	2020001180	S.CERAMIC	SFPC455H-TC01
FI7	2020001050	S.CERAMIC	SFPC455E-TC01
FI8	2020001050	S.CERAMIC	SFPC455E-TC01
X1	8070000180	S.DISCRIMINATOR	CDAC10.7MC4-A
X2	8070000170	S.DISCRIMINATOR	CDBC455CX16-TC
X3	8050008860	S.XTAL	MA-408 (8.8304 MHz)
L1	8200003050	S.COIL	NL 322522T-R82J-3
L2	8200003380	S.COIL	B4F-817PT-1028-P3
L3	8200003380	S.COIL	B4F-817PT-1028-P3
L4	8200003280	S.COIL	NL 322522T-101J
L5	8200003020	S.COIL	NL 322522T-R33J-3
L8	8200000320	S.COIL	LOH 3N 101K 04
L7	8150004170	COIL	LS-478
L6	8150004170	COIL	LS-478
L8	8150004200	COIL	LS-478
L10	8150004210	COIL	LS-460
L13	8200003150	S.COIL	NL 322522T-180J
L14	8150004200	COIL	LS-478
L17	8150004210	COIL	LS-480
L18	8150004170	COIL	LS-478
L18	8200003280	S.COIL	NL 322522T-101J
L20	8200003280	S.COIL	NL 322522T-101J
L21	8150004170	COIL	LS-478
L22	8150004170	COIL	LS-476
L23	8200003280	S.COIL	NL 322522T-101J
L24	8200005500	S.COIL	NL 322522T-471J
L25	8150002271	COIL	LS-451
L26	8150002291	COIL	LS-450
L27	8200003280	S.COIL	NL 322522T-101J
L28	8200003850	S.COIL	HF50ACC 322513-T
L29	8200003280	S.COIL	NL 322522T-101J
L30	8200003280	S.COIL	NL 322522T-101J
L31	8200003280	S.COIL	NL 322522T-101J
L32	8200003280	S.COIL	NL 322522T-101J
L33	8200003280	S.COIL	NL 322522T-101J
L34	8200003950	S.COIL	HF50ACC 322513-T
L37	8200003950	S.COIL	HF50ACC 322513-T
L38	8200003260	S.COIL	NL 322522T-101J
L39	8170000140	COIL	LW-15
L40	8200003020	S.COIL	NL 322522T-R33J-3
L41	8200003850	S.COIL	HF50ACC 322513-T
L42	8200003950	S.COIL	HF50ACC 322513-T
L43	8200003950	S.COIL	HF50ACC 322513-T
L44	8160002890	COIL	SK-17P-070-110
L45	8200005160	S.COIL	7A08L-101K-A
L48	8200005170	S.COIL	7010-2N-1768
L47	8200001850	S.COIL	NL 322522T-5R8J

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
L46	8200005180	S.COIL	7A08L-101K-A
L48	8200003260	S.COIL	NL 322522T-101J
L50	8200003280	S.COIL	NL 322522T-101J
L51	8200003260	S.COIL	NL 322522T-101J
L52	8200003260	S.COIL	NL 322522T-101J
L53	8200000020	S.COIL	LOH 3N 101K 04
R2	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R4	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R5	7030003740	S.RESISTOR	ERJ3GEYJ 334 V (330 kΩ)
R6	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R7	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R8	7030003580	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R6	7030003860	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R10	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R11	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R12	7030003330	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)
R14	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R15	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R16	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R17	7030003460	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R18	7030003460	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R19	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R20	7030003510	S.RESISTOR	ERJ3GEYJ 382 V (3.8 kΩ)
R21	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R22	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R23	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R24	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R25	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R26	7030003400	S.RESISTOR	MCR10EZHZ 470 Ω (471)
R33	7030003410	S.RESISTOR	ERJ3GEYJ 581 V (560 Ω)
R34	7030003380	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R35	7030003450	S.RESISTOR	ERJ3GEYJ 122 V (1.2 kΩ)
R36	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R37	7030003510	S.RESISTOR	ERJ3GEYJ 392 V (3.8 kΩ)
R38	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R36	7030003470	S.RESISTOR	ERJ3GEYJ 182 V (1.8 kΩ)
R40	7030003580	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R41	7030003560	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R42	7030003480	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R43	7030003540	S.RESISTOR	ERJ3GEYJ 662 V (6.6 kΩ)
R48	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R50	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R52	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R55	7030003630	S.RESISTOR	ERJ3GEYJ 393 V (38 kΩ)
R58	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R57	7510000910	S.THERMISTOR	NTCCF2012 4AH 473KC-T
R58	7030003480	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R56	7030003660	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R60	7310004140	S.TRIMMER	EVM-1YSX50 B35 (304)
R81	7030003740	S.RESISTOR	ERJ3GEYJ 334 V (330 kΩ)
R82	7030003780	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R85	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R87	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R86	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R68	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R70	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R71	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R72	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R73	7030003460	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R74	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R75	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R78	7030003460	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R77	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R78	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R78	7030003510	S.RESISTOR	ERJ3GEYJ 392 V (3.9 kΩ)
R80	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R81	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R62	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R63	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R84	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R85	7030003530	S.RESISTOR	ERJ3GEYJ 582 V (5.8 kΩ)
R87	7030003350	S.RESISTOR	ERJ3GEYJ 161 V (160 Ω)
R86	7030003660	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)

S.=Surface mount

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R68	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R80	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R81	7030003340	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R92	7030003530	S.RESISTOR	ERJ3GEYJ 562 V (5.6 kΩ)
R83	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R84	7030003820	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R95	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R96	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R97	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R08	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R99	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R101	7030003330	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)
R102	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R103	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R104	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R106	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R107	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R108	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R110	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R111	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R113	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R114	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R115	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R118	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (8.8 kΩ)
R117	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R118	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R120	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R121	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R122	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R123	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R125	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R126	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R127	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R128	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R129	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R131	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R132	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R133	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R134	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R135	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R136	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R137	7030003390	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)
R138	7510000870	S.THERMISTOR	NTCCF2012 3FH 332KC-T
R138	7310004070	S.TRIMMER	EVM-1YSX50 B33 (302)
R140	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R141	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R142	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R143	7030003330	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)
R144	7030003660	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R145	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R146	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R147	7030003540	S.RESISTOR	ERJ3GEYJ 882 V (8.8 kΩ)
R148	7030003540	S.RESISTOR	ERJ3GEYJ 662 V (8.8 kΩ)
R149	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R150	7030003580	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R151	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R152	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R153	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R154	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R155	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R156	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R157	7030003680	S.RESISTOR	ERJ3GEYJ 863 V (86 kΩ)
R158	7030003540	S.RESISTOR	ERJ3GEYJ 662 V (8.8 kΩ)
R158	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R160	7030003470	S.RESISTOR	ERJ3GEYJ 182 V (1.8 kΩ)
R161	7030003470	S.RESISTOR	ERJ3GEYJ 162 V (1.8 kΩ)
R182	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R163	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R164	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R165	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R166	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R167	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R168	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R168	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R170	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R173	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R174	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R175	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R178	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R178	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R180	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R181	7030003610	S.RESISTOR	ERJ3GEYJ 273 V (27 kΩ)
R182	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)
R183	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R184	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R186	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R187	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R188	7030003660	S.RESISTOR	ERJ3GEYJ 863 V (86 kΩ)
R189	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R191	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R192	7510000670	S.THERMISTOR	NTCCF2012 3FH 332KC-T
R193	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R194	7030003540	S.RESISTOR	ERJ3GEYJ 682 V (8.8 kΩ)
R185	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R186	7030003600	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R187	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R188	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R200	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R201	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R202	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R203	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R204	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R205	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R206	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R207	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R208	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R208	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R210	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R211	7030003780	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R212	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R213	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R214	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R215	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R218	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R217	7030003590	S.RESISTOR	ERJ3GEYJ 163 V (16 kΩ)
R218	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R219	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R220	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R221	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R222	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R224	7030003860	S.RESISTOR	ERJ3GEYJ 663 V (86 kΩ)
R225	7030003740	S.RESISTOR	ERJ3GEYJ 334 V (330 kΩ)
R228	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R227	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R228	7030003810	S.RESISTOR	ERJ3GEYJ 125 V (1.2 MΩ)
R228	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R230	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R231	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R232	7030003580	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R233	7310004110	S.TRIMMER	EVM-1YSX50 B54 (503)
R234	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R235	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R236	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R237	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R238	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R240	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R244	7030007510	S.RESISTOR	ERJ12YJ270H (27 Ω)
R245	7030007510	S.RESISTOR	ERJ12YJ270H (27 Ω)
R248	7410001070	S.ARRAY	EXB-V6 221V (220 Ω)
R247	7030003680	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R248	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R248	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R250	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R251	7030003530	S.RESISTOR	ERJ3GEYJ 502 V (5.8 kΩ)
R252	7310004280	TRIMMER	RH0615CS4J 47K (473)
R253	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R254	7310004280	TRIMMER	RH0615CS4J 47K (473)
R255	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R256	7030003780	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R257	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R258	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)

S.=Surface mount

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R259	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R260	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R261	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R282	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R263	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R284	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R285	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R288	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R287	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R288	7030003650	S.RESISTOR	ERJ3GEYJ 583 V (58 kΩ)
R289	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R270	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R271	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R272	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (880 Ω)
R273	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R274	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R275	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R276	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R277	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R278	7030004050	S.RESISTOR	ERJ3GEYJ 1R0 V (1 Ω)
R279	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R280	7310004060	S.TRIMMER	EVM-1YSX50 B13 (102)
R261	7030003510	S.RESISTOR	ERJ3GEYJ 382 V (3.6 kΩ)
R262	7030006140	S.RESISTOR	ERJ1WYJ580H (56 Ω)
R283	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R284	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R285	7030006140	S.RESISTOR	ERJ1WYJ580H (56 Ω)
R286	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R287	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R288	7030008220	S.RESISTOR	ERJ1WYJ470H (47 Ω)
R289	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R290	7030007510	S.RESISTOR	ERJ1WYJ270H (27 Ω)
R261	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R262	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R293	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R294	7030003580	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R265	7030003540	S.RESISTOR	ERJ3GEYJ 882 V (8.8 kΩ)
R266	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R297	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R298	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R266	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R300	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R301	7030003650	S.RESISTOR	ERJ3GEYJ 583 V (58 kΩ)
R302	7030003680	S.RESISTOR	ERJ3GEYJ 883 V (88 kΩ)
R303	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R304	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R305	7030003830	S.RESISTOR	ERJ3GEYJ 393 V (39 kΩ)
R308	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R307	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R308	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R309	7030003670	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ)
R310	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R311	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R312	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R315	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R318	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R317	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R316	7030003780	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R318	7030003470	S.RESISTOR	ERJ3GEYJ 182 V (1.8 kΩ)
R320	7030003490	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R322	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R323	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R324	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R325	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R328	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R326	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R330	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R331	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R332	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R333	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R334	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R335	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R336	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R337	7030003780	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R338	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R336	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R340	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R341	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R342	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R343	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R344	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R345	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R346	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R347	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R348	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R349	7030003840	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R351	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R352	7030003880	S.RESISTOR	ERJ3GEYJ 124 V (120 kΩ)
R354	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R355	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R358	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R357	7030007360	S.RESISTOR	ERJ1WYJ470H (47 Ω)
R358	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R381	7030003680	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R382	7510000980	S.THERMISTOR	NTCCF2012 3JH 472KC-T
R384	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R385	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R386	7030003480	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R387	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R388	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R370	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R371	7030003410	S.RESISTOR	ERJ3GEYJ 561 V (560 Ω)
R372	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R373	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R374	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R375	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R378	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R377	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R378	7030003680	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R378	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R360	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R381	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R382	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R383	7030003550	S.RESISTOR	ERJ3GEYJ 822 V (8.2 kΩ)
R384	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (180 Ω)
R385	7030003310	S.RESISTOR	ERJ3GEYJ 820 V (82 Ω)
R388	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R387	7030003310	S.RESISTOR	ERJ3GEYJ 820 V (82 Ω)
R388	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R388	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R390	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R361	7030003580	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R362	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R383	7030003680	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R364	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R365	7030003680	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R396	7030003680	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R387	7030003680	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R388	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R399	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R400	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R401	7030003870	S.RESISTOR	ERJ3GEYJ 823 V (82 kΩ)
R402	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R403	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R404	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R408	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R407	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R408	7030003800	S.RESISTOR	ERJ3GEYJ 105 V (1 MΩ)
R406	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R410	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R411	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R412	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R413	7030003650	S.RESISTOR	ERJ3GEYJ 563 V (56 kΩ)
R414	7030003510	S.RESISTOR	ERJ3GEYJ 362 V (3.6 kΩ)
R415	7030003780	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R416	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R417	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R418	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R416	7030003420	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R420	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 kΩ)
R421	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (620 kΩ)

S.=Surface mount

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R424	7030003660	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R425	7030003660	S.RESISTOR	ERJ3GEYJ 683 V (68 kΩ)
R426	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R427	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R428	7030003660	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R428	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R430	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R431	7030003580	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R432	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R433	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R435	7030003640	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R436	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R437	7030003840	S.RESISTOR	ERJ3GEYJ 225 V (2.2 MΩ)
R438	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R439	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R440	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R441	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R442	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R443	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R444	7030003460	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R445	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R446	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R447	7310004080	S.TRIMMER	EVM-1YSX50 B53 (502)
R448	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R450	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R451	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R452	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R454	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R455	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R456	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R457	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R458	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R459	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R460	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R461	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R462	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R463	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R484	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R485	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R488	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R487	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R488	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R489	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R470	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R471	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R472	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R473	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R474	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R475	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R478	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R477	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R478	7510000860	S.THERMISTOR	NTCCF2012 3FH 222KC-T
R480	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R481	7030007510	S.RESISTOR	ERJ12YJ270H (27 Ω)
R482	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R483	703000440	S.RESISTOR	MCR10EZHJ 3.3 kΩ (332)
R484	703000440	S.RESISTOR	MCR10EZHJ 3.3 kΩ (332)
R485	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R486	7030003860	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R487	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R488	7510000860	S.THERMISTOR	NTCCF2012 3NH 153KC-T
R490	7510001060	S.THERMISTOR	NTCCF2012 3BH 152KCT
R491	7030007510	S.RESISTOR	ERJ12YJ270H (27 Ω)
R495	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R498	7030003750	S.RESISTOR	ERJ3GEYJ 394 V (390 kΩ)
R497	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R498	7030003580	S.RESISTOR	ERJ3GEYJ 153 V (15 kΩ)
R499	7510000890	S.THERMISTOR	NTCCF2012 3NH 153KC-T
R500	7510000780	S.THERMISTOR	NTCCF2012 3SH 333KC-T
R502	7510001080	S.THERMISTOR	NTCCF2012 3BH 152KCT
R503	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R504	7310004080	S.TRIMMER	EVM-1YSX50 B53 (502)
R505	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R506	7030003820	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R507	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R508	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R508	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R510	7030006200	S.RESISTOR	ERJ12YJ2R7H (2.7 Ω)
R511	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R512	7030003510	S.RESISTOR	ERJ3GEYJ 392 V (3.9 kΩ)
R513	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R514	7030003400	S.RESISTOR	ERJ3CEYJ 471 V (470 Ω)
R515	7030004050	S.RESISTOR	ERJ3GEYJ 1R0 V (1 Ω)
R516	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ) [EUR], [FRA]
R517	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ) [USA], [FRA]
R518	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ) except [FRA]
C1	4030010780	S.CERAMIC	C1608 CH 1H 331J-T-A
C2	4030010780	S.CERAMIC	C1608 CH 1H 331J-T-A
C3	4030006920	S.CERAMIC	C1608 JB 1C 473K-T-A
C4	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C5	4030006620	S.CERAMIC	C1608 JB 1C 473K-T-A
C8	4030006920	S.CERAMIC	C1608 JB 1C 473K-T-A
C7	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C8	4030007170	S.CERAMIC	C1608 CH 1H 680J-T-A
C9	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C10	4030006620	S.CERAMIC	C1608 JB 1C 473K-T-A
C11	4030006920	S.CERAMIC	C1608 JB 1C 473K-T-A
C12	4030006620	S.CERAMIC	C1608 JB 1C 473K-T-A
C13	4030009000	S.CERAMIC	C2012 JB 1C 224K-T-A
C14	4030006920	S.CERAMIC	C1608 JB 1C 473K-T-A
C15	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C18	4030006020	S.CERAMIC	C1608 JB 1C 473K-T-A
C17	4030006620	S.CERAMIC	C1608 JB 1C 473K-T-A
C16	4030006680	S.CERAMIC	C1608 JB 1H 102K-T-A
C19	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C20	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C21	4030006680	S.CERAMIC	C1608 JB 1H 472K-T-A
C22	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C23	4030006680	S.CERAMIC	C1608 JB 1H 472K-T-A
C24	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C25	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C26	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C27	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C28	4510008220	S.ELECTROLITIC	ECEV1CA101UP
C30	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C31	4510004650	S.ELECTROLITIC	ECEV1EA4R7SR
C32	4030006680	S.CERAMIC	C1608 JB 1H 472K-T-A
C33	4030008600	S.CERAMIC	C1608 JB 1E 103K-T-A
C34	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C35	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C36	4030008900	S.CERAMIC	C1608 JB 1E 103K-T-A
C37	4810002100	S.TRIMMER	CTZ3E-05A-A
C38	4030008690	S.CERAMIC	C1608 JB 1E 103K-T-A
C36	4030008680	S.CERAMIC	C1608 JB 1C 223K-T-A
C40	4030008650	S.CERAMIC	C1608 JB 1H 471K-T-A
C41	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C43	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C44	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C45	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C46	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C47	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C48	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C50	4030009530	S.CERAMIC	C1608 CH 1H 030B-T-A
C52	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C53	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C54	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C55	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C56	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C57	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C58	4030009520	S.CERAMIC	C1608 CH 1H 020B-T-A
C59	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C80	4030008680	S.CERAMIC	C1608 JB 1H 472K-T-A
C81	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C82	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C83	4030008680	S.CERAMIC	C1608 JB 1H 472K-T-A
C85	4550003240	S.TANTALUM	TEMSVB 1E 335M-12L
C88	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N

S.=Surface mount

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C87	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C88	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C89	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C70	4030007140	S.CERAMIC	C1808 CH 1H 121J-T-A
C71	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C72	4510004650	S.ELECTROLITIC	ECEV1EA4RTSR
C73	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C74	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C75	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C76	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C77	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C78	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C79	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C80	4030007030	S.CERAMIC	C1808 CH 1H 150J-T-A
C81	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C82	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C83	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A
C84	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C85	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C86	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C87	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C88	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C89	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C90	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C91	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C92	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C93	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C94	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C95	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C98	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C97	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C96	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C99	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C100	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C101	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C102	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C103	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C104	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C105	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C106	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C107	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C108	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C109	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C110	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C111	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C112	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C113	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C114	4030007150	S.CERAMIC	C1808 CH 1H 151J-T-A
C115	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C116	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C117	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C118	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C119	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C120	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C121	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C122	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C123	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C124	4030008800	S.CERAMIC	C1808 JB 1E 103K-T-A
C125	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C126	4030008900	S.CERAMIC	C1808 JB 1E 103K-T-A
C127	4030008860	S.CERAMIC	C1808 JB 1C 333K-T-A
C128	4030008900	S.CERAMIC	C1808 JB 1C 333K-T-A
C129	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C130	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C131	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C132	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C133	4030008920	S.CERAMIC	C1808 JB 1C 473K-T-A
C134	4510005660	S.ELECTROLITIC	ECEV1HA2R2SR
C135	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C136	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C137	4550002690	S.TANTALUM	TESVA 1A 225M1-8L
C138	4030011810	S.CERAMIC	C1808 JB 1C 224KT-N
C139	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C140	4510008230	S.ELECTROLITIC	ECEV1EA470UP
C141	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A
C142	4510004630	S.ELECTROLITIC	ECEV1CA100SR

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C143	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A
C144	4510006230	S.ELECTROLITIC	ECEV1EA470UP
C145	4030008920	S.CERAMIC	C1808 JB 1C 473K-T-A
C146	4510005860	S.ELECTROLITIC	ECEV1HA2R2SR
C147	4030006660	S.CERAMIC	C1808 JB 1H 472K-T-A
C148	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C149	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C150	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C151	4510005890	S.ELECTROLITIC	ECEV1AAN100R
C152	4510004850	S.ELECTROLITIC	ECEV1EA4R7SR
C153	4030010210	S.CERAMIC	C3218 JB 1C 105M-T-A
C154	4030009110	S.CERAMIC	C3218 JB 1C 474K-T-A
C155	4510008220	S.ELECTROLITIC	ECEV1CA101UP
C157	4510005880	S.ELECTROLITIC	ECEV1HA2R2SR
C158	4510004890	S.ELECTROLITIC	ECEV1CA100SR
C159	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C160	4030006660	S.CERAMIC	C1808 JB 1H 472K-T-A
C161	4030006860	S.CERAMIC	C1808 JB 1H 102K-T-A
C182	4030006880	S.CERAMIC	C1808 JB 1H 102K-T-A
C183	4030006880	S.CERAMIC	C1808 JB 1H 102K-T-A
C184	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C185	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C186	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C187	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C188	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C189	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C190	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C191	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C193	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C194	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C196	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C197	4030006860	S.CERAMIC	C1808 JB 1E 103K-T-A
C186	4030010210	S.CERAMIC	C3218 JB 1C 105M-T-A
C199	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C200	4510006220	S.ELECTROLITIC	ECEV1CA101UP
C201	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C202	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C203	4030006660	S.CERAMIC	C1808 JB 1H 472K-T-A
C204	4030009000	S.CERAMIC	C2012 JB 1C 224K-T-A
C206	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C207	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C208	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C209	4030009110	S.CERAMIC	C3218 JB 1C 474K-T-A
C210	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C211	4510008240	S.ELECTROLITIC	ECEV1CA221P
C212	4550006080	S.TANTALUM	TEMSVB2 1C 108M-8L
C213	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C214	4510004650	S.ELECTROLITIC	ECEV1EA4R7SR
C215	4030009000	S.CERAMIC	C2012 JB 1C 224K-T-A
C218	4030006860	S.CERAMIC	C1808 JB 1H 472K-T-A
C217	4030006860	S.CERAMIC	C1808 JB 1H 472K-T-A
C218	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C219	4510006230	S.ELECTROLITIC	ECEV1EA470UP
C220	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C221	4030006860	S.CERAMIC	C1808 JB 1H 472K-T-A
C222	4030006860	S.CERAMIC	C1808 JB 1H 102K-T-A
C223	4510006230	S.ELECTROLITIC	ECEV1EA470UP
C224	4510006240	S.ELECTROLITIC	ECEV1CA221P
C225	4510006230	S.ELECTROLITIC	ECEV1EA470UP
C226	4510006670	S.ELECTROLITIC	ECEV1CA471P
C227	4510004600	ELECTROLITIC	16 MV 1000 HC
C228	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C229	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C230	4030006860	S.CERAMIC	C1808 JB 1H 472K-T-A
C231	4030007090	S.CERAMIC	C1808 CH 1H 470J-T-A
C232	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C235	4030006880	S.CERAMIC	C1808 JB 1H 472K-T-A
C236	4030006900	S.CERAMIC	C1808 JB 1E 103K-T-A
C236	4030006860	S.CERAMIC	C1808 JB 1H 472K-T-A
C236	4030006460	S.CERAMIC	GRM42-8 B 104K 50PT

S.=Surface mount

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C240	4030006480	S.CERAMIC	GRM42-6 B 104K 50PT
C241	4510006230	S.ELECTROLITIC	ECEV1EA470UP
C242	4510004510	ELECTROLITIC	25 MV 470 HC
C243	4030006480	S.CERAMIC	GRM42-6 B 104K 50PT
C244	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C245	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C246	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C247	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C248	4510008240	S.ELECTROLITIC	ECEV1CA221P
C249	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C250	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C251	4510006240	S.ELECTROLITIC	ECEV1CA221P
C252	4310000870	S.MYLAR	ECHU 1H 333JBS
C253	4510006660	S.ELECTROLITIC	ECEV1HA 330P
C254	4510006660	S.ELECTROLITIC	ECEV1HA 330P
C255	4030006480	S.CERAMIC	GRM42-6 B 104K 50PT
C258	4030006480	S.CERAMIC	GRM42-6 B 104K 50PT
C257	4510008210	S.ELECTROLITIC	ECEV1VA330UP
C258	4510008210	S.ELECTROLITIC	ECEV1VA330UP
C259	4510008230	S.ELECTROLITIC	ECEV1EA470UP
C280	4510005310	S.ELECTROLITIC	ECEV1CA220SR
C281	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C282	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C283	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C284	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C285	4030008900	S.CERAMIC	C1608 JB 1E 103K-T-A
C288	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C287	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C286	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C288	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C270	4030008900	S.CERAMIC	C1608 JB 1E 103K-T-A
C271	4030006110	S.CERAMIC	C3218 JB 1C 474K-T-A
C272	4030008800	S.CERAMIC	C1608 JB 1E 103K-T-A
C273	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C274	4030008110	S.CERAMIC	C3216 JB 1C 474K-T-A
C275	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C276	4030008880	S.CERAMIC	C1608 JB 1H 102K-T-A
C277	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C278	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C281	4030008850	S.CERAMIC	C1608 JB 1H 471K-T-A
C282	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C283	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C284	4030008800	S.CERAMIC	C1608 JB 1E 103K-T-A
C285	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C287	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C288	4030007020	S.CERAMIC	C1608 CH 1H 120J-T-A
C289	4030007020	S.CERAMIC	C1608 CH 1H 120J-T-A
C290	4030009000	S.CERAMIC	C2012 JB 1C 224K-T-A
C281	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C282	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C283	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C284	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C285	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C286	4030008860	S.CERAMIC	C1608 JB 1H 472K-T-A
C287	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C288	4030006860	S.CERAMIC	C1608 JB 1H 472K-T-A
C289	4030006660	S.CERAMIC	C1608 JB 1H 472K-T-A
C300	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C301	4030008600	S.CERAMIC	C1608 JB 1E 103K-T-A
C303	4510004510	ELECTROLITIC	25 MV 470 HC
C304	4030008480	S.CERAMIC	GRM42-6 B 104K 50PT
C305	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C308	4510006230	S.ELECTROLITIC	ECEV1EA470UP
C307	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C308	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C308	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
C310	4030006000	S.CERAMIC	C2012 JB 1C 224K-T-A
C311	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C312	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C313	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C314	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C315	4030010210	S.CERAMIC	C3218 JB 1C 105M-T-A
C316	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C317	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C318	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C319	4510004830	S.ELECTROLITIC	ECEV1CA100SR

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C320	4030007070	S.CERAMIC	C1608 CH 1H 330J-T-A
C321	4030008950	S.CERAMIC	C1608 CH 1H 040C-T-A
C322	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C323	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C324	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C325	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C326	4030008800	S.CERAMIC	C1608 JB 1E 103K-T-A
C326	4510005880	S.ELECTROLITIC	ECEV1HA2R2SR
C330	4030008880	S.CERAMIC	C1608 JB 1H 102K-T-A
C331	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C332	4030006660	S.CERAMIC	C1608 JB 1E 103K-T-A
C333	4030008880	S.CERAMIC	C1608 JB 1C 223K-T-A
C334	4030008860	S.CERAMIC	C1608 JB 1C 223K-T-A
C335	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C336	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C336	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C340	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C341	4030007060	S.CERAMIC	C1608 CH 1H 470J-T-A
C342	4030010020	S.CERAMIC	C1608 JB 1H 122K-T-A
C343	4510004830	S.ELECTROLITIC	ECEV1CA100SR
C344	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
C345	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C346	4030007060	S.CERAMIC	C1608 CH 1H 470J-T-A
C347	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C346	4030007170	S.CERAMIC	C1608 CH 1H 221J-T-A
C346	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C350	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C351	4030006660	S.CERAMIC	C1608 JB 1H 472K-T-A
C352	4510005880	S.ELECTROLITIC	ECEV1HA2R2SR
C353	4030009000	S.CERAMIC	C2012 JB 1C 224K-T-A
C354	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C355	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C358	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C357	4530000400	S.ARRAY	EZANCE 220M 22P
C358	4530000410	S.ARRAY	EZANCE 471M 470P
C358	4530000410	S.ARRAY	EZANCE 471M 470P
C380	4530000410	S.ARRAY	EZANCE 471M 470P
C361	4530000400	S.ARRAY	EZANCE 220M 22P
C362	4530000400	S.ARRAY	EZANCE 220M 22P
C363	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
C364	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
C365	4510004680	ELECTROLITIC	16 MV 1000 HC
C367	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C368	4550003240	S.TANTALUM	TEMSVB 1E 335M-12L
C388	4530000410	S.ARRAY	EZANCE 471M 470P
C370	4530000410	S.ARRAY	EZANCE 471M 470P
C371	4530000410	S.ARRAY	EZANCE 471M 470P
C372	4530000400	S.ARRAY	EZANCE 220M 22P
C373	4530000410	S.ARRAY	EZANCE 471M 470P
C374	4530000410	S.ARRAY	EZANCE 471M 470P
C375	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C376	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C377	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C376	4030010210	S.CERAMIC	C3216 JB 1C 105M-T-A
C376	4030008860	S.CERAMIC	C1608 JB 1C 223K-T-A
C380	4030006110	S.CERAMIC	C3218 JB 1C 474K-T-A
C381	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C382	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C383	4030006880	S.CERAMIC	C1608 JB 1H 472K-T-A
C384	4030010210	S.CERAMIC	C3218 JB 1C 105M-T-A
C385	4550006460	S.TANTALUM	TEMSVA 1C 475M-8L
C386	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C387	4030007060	S.CERAMIC	C1608 CH 1H 470J-T-A
C388	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
C388	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
C380	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
C381	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
RL1	8330001080	RELAY	APQ 3311

S.=Surface mount

[MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
F1	5210000220	FUSE	FGMB 125V 3A
F2	6510016320	HOLDER	F06P
J1	6510007020	CONNECTOR	TMP-J01X-V8
J2	6510007020	CONNECTOR	TMP-J01X-V6
J3	6510006360	CONNECTOR	TMP-J02X-A1
J4	6510007020	CONNECTOR	TMP-J01X-V8
J5	6510016760	S.CONNECTOR	52810-1580
J6	6510018140	S.CONNECTOR	52810-1060
J7	6510018760	S.CONNECTOR	52810-1580
J8	6510018140	S.CONNECTOR	52810-1090
J9	6510003440	CONNECTOR	B06B-EH-S
J10	6510007860	CONNECTOR	PI28A-07M
J12	6510018180	S.CONNECTOR	52385-0861
J14	8450001700	CONNECTOR	HEC0740-010010
J15	651001430	CONNECTOR	B3P-VH
J16	651001440	CONNECTOR	B4P-VH
J17	6450000150	CONNECTOR	JPJ2545-01-510
J18	6450000150	CONNECTOR	JPJ2545-01-510
J19	6510007100	CONNECTOR	PI26A-08M
J20	6510007170	CONNECTOR	PI26A-03M
J21	6450000140	CONNECTOR	HSJ0807-01-010
J22	6450000140	CONNECTOR	HSJ0807-01-010
J23	6510018650	CONNECTOR	DBLC-J25SAF-23L8
J26	6450001580	CONNECTOR	PD-72
J29	6450001580	CONNECTOR	PO-72
J30	6450001580	CONNECTOR	PD-72
J31	6450001580	CONNECTOR	PD-72
J32	6510014160	CONNECTOR	A4B-3PA-2DSA
PI	6510014160	CONNECTOR	A3-SP(A)
W1	7030003860	S.JUMPER	ERJ3GE JPW V
W9	7030003860	S.JUMPER	ERJ3GE JPW V
W10	7030003860	S.JUMPER	ERJ3GE JPW V
W11	7030003860	S.JUMPER	ERJ3GE JPW V
W12	7030003860	S.JUMPER	ERJ3GE JPW V
W13	7030003860	S.JUMPER	ERJ3GE JPW V
EP1	0910046264	PCB	B 4862D

[MIX UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
L1	6200002620	S.COIL	LQN 1A 47NJ04
L2	6200003330	S.COIL	NL 322522T-1R0J-3
L3	6200002370	S.COIL	LQN 1A 38NJ04
L4	6200003330	S.COIL	NL 322522T-1R0J-3
L5	6200005350	S.COIL	LL1608-F10NJ
L6	6200003330	S.COIL	NL 322522T-1R0J-3
L7	6200003330	S.COIL	NL 322522T-1R0J-3
L8	6200002320	S.COIL	LQN 1A 8N6J04
L9	6200003030	S.COIL	NL 322522T-R47J-3
L10	6180002980	S.COIL	NL 322522T-R16J-3
L11	6200003330	S.COIL	NL 322522T-1R0J-3
L12	6200005350	S.COIL	LL1608-F10NJ
L13	6200005360	S.COIL	LL1608-F12NJ
L14	6180001180	COIL	7HT-302HEP-1628A'
L15	6180001110	COIL	7HW-252HEP-3076A
L16	6200005360	S.COIL	LL1608-F22NJ
L17	6200005400	S.COIL	LL1608-F27NJ
L18	6200003330	S.COIL	NL 322522T-1R0J-3
L19	6200003330	S.COIL	NL 322522T-1R0J-3
L20	6200005350	S.COIL	LL1608-F10NJ
L21	6200005340	S.COIL	LL1608-F6N2J
L22	6200003450	S.COIL	NL 322522T-062J
L23	6200005360	S.COIL	LL1608-F12NJ
L24	6200005380	S.COIL	LL1608-F16NJ
R1	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R2	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R3	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R4	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R5	7030003460	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R6	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R7	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R8	7030003470	S.RESISTOR	ERJ3GEYJ 182 V (1.8 kΩ)
R9	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R10	7030003230	S.RESISTOR	ERJ3GEYJ 160 V (18 Ω)
R11	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R12	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (620 Ω)
R13	7030004030	S.RESISTOR	ERJ3GEYJ 5R8 V (5.8 Ω)
R14	7030003430	S.RESISTOR	ERJ3GEYJ 621 V (620 Ω)
R15	7030003360	S.RESISTOR	ERJ3GEYJ 331 V (330 Ω)
R16	7030003660	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R17	7410000730	S.ARRAY	EXB-V8V 104JV (100 kΩ)
R18	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R19	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R20	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R21	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R22	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R23	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R24	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
C1	4030008660	S.CERAMIC	C1608 JB 1H 102K-T-A
C2	4030008660	S.CERAMIC	C1608 CH 1H 070D-T-A
C3	4030008660	S.CERAMIC	C1608 JB 1H 102K-T-A
C4	4030008660	S.CERAMIC	C1608 JB 1H 102K-T-A
C5	4030007040	S.CERAMIC	C1608 CH 1H 180J-T-A
C6	4030008660	S.CERAMIC	C1608 CH 1H 050C-T-A
C7	4030008660	S.CERAMIC	C1608 JB 1H 102K-T-A
C8	4030008880	S.CERAMIC	C1608 CH 1H 470J-T-A
C9	4030007060	S.CERAMIC	C1608 JB 1H 470J-T-A
C10	4030008650	S.CERAMIC	C1608 JB 1H 471K-T-A
C11	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A
C12	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
C13	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C14	4030008520	S.CERAMIC	C1608 CH 1H 020B-T-A
C15	4030007020	S.CERAMIC	C1608 CH 1H 120J-T-A
C16	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C17	4030008880	S.CERAMIC	C1608 CH 1H 470J-T-A
C18	4030008680	S.CERAMIC	C1608 JB 1H 102K-T-A
C19	4030008650	S.CERAMIC	C1608 JB 1H 471K-T-A
C20	4030008650	S.CERAMIC	C1608 JB 1H 471K-T-A
C21	4030008510	S.CERAMIC	C1608 CH 1H 010B-T-A
C22	4030008510	S.CERAMIC	C1608 CH 1H 050C-T-A
C23	4030008680	S.CERAMIC	C1608 JB 1H 222K-T-A
C24	4030008670	S.CERAMIC	C1608 JB 1H 151J-T-A
C25	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A
C26	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A
C27	4030007150	S.CERAMIC	C1608 CH 1H 151J-T-A

S.=Surface mount

[MIX UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C28	4030006650	S.CERAMIC	C1908 JB 1H 471K-T-A
C29	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C30	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C31	4030007080	S.CERAMIC	C1808 CH 1H 470J-T-A
C32	4030006890	S.CERAMIC	C1808 JB 1H 102K-T-A
C33	4030006850	S.CERAMIC	C1808 JB 1H 471K-T-A
C34	4030008880	S.CERAMIC	C1808 CH 1H 050C-T-A
C35	4030009580	S.CERAMIC	C1808 CH 1H R75B-T-A
C36	4030008980	S.CERAMIC	C1808 CH 1H 050C-T-A
C37	4030006500	S.CERAMIC	C1808 CH 1H 0R5B-T-A
C38	4030006530	S.CERAMIC	C1808 CH 1H 030B-T-A
C39	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C40	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C47	4030006680	S.CERAMIC	C1808 CH 1H 050C-T-A
C48	4030008810	S.CERAMIC	C1808 CH 1H 040B-T-A
C49	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C50	4030006530	S.CERAMIC	C1808 CH 1H 030B-T-A
C51	4030006680	S.CERAMIC	C1808 CH 1H 070D-T-A
C52	4030006680	S.CERAMIC	C1808 JB 1H 102K-T-A
C53	4030006650	S.CERAMIC	C1608 JB 1H 471K-T-A
C54	4030006680	S.CERAMIC	C1608 JB 1H 102K-T-A
C55	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C58	4030008880	S.CERAMIC	C1608 JB 1H 102K-T-A
C57	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C58	4530000410	S.ARRAY	EZANCE 471M 470P
C59	4530000410	S.ARRAY	EZANCE 471M 470P
C60	4030008850	S.CERAMIC	C1908 JB 1H 471K-T-A
C91	4030006520	S.CERAMIC	C1808 CH 1H 020B-T-A
J1	8510018140	S.CONNECTOR	52810-1000
J2	6510007020	CONNECTOR	TMP-J01X-V6
EP1	0610048293	PCB	B 4883C

[RF-A UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
D8	1780000450	S.DIODE	MA882(TX)
D9	1780000450	S.DIODE	MA882(TX)
D10	1780000450	S.DIODE	MA882(TX)
D11	1780000820	S.DIODE	MA77(TW)
D12	1790000450	S.DIODE	MA882(TX)
D13	1790000450	S.DIODE	MA882(TX)
D14	1780000450	S.DIODE	MA882(TX)
D15	1780000450	S.DIODE	MA882(TX)
D16	1750000210	S.DIODE	1SV237 (TE85R)
D17	1780000450	S.DIODE	MA882(TX)
D18	1790000991	S.DIODE	ND433G-E1
F11	2010001880	XTAL	48M15A (48.800 MHz)
L1	6140002070	COIL	LR-233
L2	8200003010	S.COIL	NL 322522T-R27J-3
L3	8200003000	S.COIL	NL 322522T-R22J-3
L4	8200003000	S.COIL	NL 322522T-R22J-3
L5	8200003520	S.COIL	ELJFB 102K-F
L8	8200003520	S.COIL	ELJFB 102K-F
L7	8200001710	S.COIL	NL 322522T-220J
L8	8200001710	S.COIL	NL 322522T-220J
L10	8200001850	S.COIL	NL 322522T-5R8J
L11	8200003110	S.COIL	NL 322522T-6R8J
L12	8200003520	S.COIL	ELJFB 102K-F
L13	8200005500	S.COIL	NL 322522T-471J
L14	8200005500	S.COIL	NL 322522T-471J
L15	8200003110	S.COIL	NL 322522T-4R7J-3
L16	8200002860	S.COIL	NL 322522T-4R7J-3
L17	8200005500	S.COIL	NL 322522T-471J
L18	8200002990	S.COIL	NL 322522T-2R2J-3
L19	8200002880	S.COIL	NL 322522T-2R2J-3
L20	8200002880	S.COIL	NL 322522T-4R7J-3
L21	8200003100	S.COIL	NL 322522T-3R9J-3
L22	8200003260	S.COIL	NL 322522T-101J
L23	8200003100	S.COIL	NL 322522T-3R8J-3
L24	8200001850	S.COIL	NL 322522T-5R6J
L25	8200003280	S.COIL	NL 322522T-101J
L26	8200003050	S.COIL	NL 322522T-R62J-3
L27	8200003080	S.COIL	NL 322522T-1R2J-3
L28	8200003080	S.COIL	NL 322522T-1R6J-3
L29	8200003070	S.COIL	NL 322522T-1R5J-3
L30	8200003260	S.COIL	NL 322522T-101J
L31	8200003080	S.COIL	NL 322522T-1R2J-3
L32	8200003330	S.COIL	NL 322522T-1R0J-3
L33	8200003050	S.COIL	NL 322522T-R62J-3
L34	8200003080	S.COIL	NL 322522T-1R2J-3
L35	8200003260	S.COIL	NL 322522T-101J
L36	8200003030	S.COIL	NL 322522T-R47J-3
L37	9200002860	S.COIL	NL 322522T-R56J-3
L38	8200003040	S.COIL	NL 322522T-R98J-3
L36	8200003050	S.COIL	NL 322522T-R92J-3
L40	8200003280	S.COIL	NL 322522T-101J
L41	8200003250	S.COIL	NL 322522T-R39J-3
L42	8200003250	S.COIL	NL 322522T-R39J-3
L43	8200003030	S.COIL	NL 322522T-R47J-3
L44	8200002980	S.COIL	NL 322522T-R58J-3
L45	8200003260	S.COIL	NL 322522T-101J
L46	8200003010	S.COIL	NL 322522T-R27J-3
L47	9200003010	S.COIL	NL 322522T-R27J-3
L48	8200003020	S.COIL	NL 322522T-R33J-3
L49	8200003250	S.COIL	NL 322522T-R38J-3
L50	8200003520	S.COIL	ELJFB 102K-F
L51	8200003520	S.COIL	ELJFB 102K-F
L52	8200005500	S.COIL	NL 322522T-471J
L53	8200005500	S.COIL	NL 322522T-471J
L54	8140000840	COIL	LR-88
L55	8140001540	COIL	LR-188
L58	8200005500	S.COIL	NL 322522T-471J
L57	8200003520	S.COIL	ELJFB 102K-F
L56	8200003000	S.COIL	NL 322522T-R22J-3
L58	8200003000	S.COIL	NL 322522T-R22J-3
L60	8140001500	COIL	LR-171
L81	8200001830	S.COIL	NL 322522T-100J

S.=Surface mount

[RF-A UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
L82	8150002980	COIL	LS-308
L83	8150003110	COIL	LS-308
L64	8200003330	S.COIL	NL 322522T-1R0J-3
L65	8150002390	COIL	LS-250
L88	8150000880	COIL	LS-114
L67	8200003380	S.COIL	B4F-617PT-1028-P3
L88	8200003380	S.COIL	B4F-617PT-1028-P3
L69	8200001830	S.COIL	NL 322522T-100J
L70	8200003010	S.COIL	NL 322522T-R27J-3
L71	8200003010	S.COIL	NL 322522T-R27J-3
L72	8200003000	S.COIL	NL 322522T-R22J-3
L73	8200003330	S.COIL	NL 322522T-1R0J-3
L74	8200001830	S.COIL	NL 322522T-100J
L75	8200003430	S.COIL	NL 322522T-R10J
L76	8200001470	S.COIL	NL 322522T-R12J-3
L77	8200003950	S.COIL	HF50ACC 322513-T
L78	8200003950	S.COIL	HF50ACC 322513-T
L79	8200003850	S.COIL	HF50ACC 322513-T
L80	8200003320	S.COIL	NL 322522T-3R3J-3
L82	8180002980	S.COIL	NL 322522T-R18J-3
L83	8200003000	S.COIL	NL 322522T-R22J-3
L84	8200003030	S.COIL	NL 322522T-R47J-3
L85	8200003040	S.COIL	NL 322522T-R86J-3
L86	8200003010	S.COIL	NL 322522T-R27J-3
R1	7540000130	ABSORBER	2P-50A-301
R2	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R3	7540000130	ABSORBER	2P-50A-301
R4	7030003800	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R5	7030007850	S.RESISTOR	ERJ8ENF 0880V (88 Ω)
R7	7030000330	S.RESISTOR	MCR10EZHJ 380 Ω (391)
R6	7030000230	S.RESISTOR	MCR10EZHJ 58 Ω (580)
R9	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R10	7030007850	S.RESISTOR	ERJ8ENF 0880V (88 Ω)
R12	7030007540	S.RESISTOR	ERJ8ENF 3900V (390 Ω)
R14	7030007530	S.RESISTOR	ERJ8ENF 1800V (180 Ω)
R18	7030000260	S.RESISTOR	MCR10EZHJ 100 Ω (101)
R19	7030000240	S.RESISTOR	MCR10EZHJ 66 Ω (860)
R20	7030000260	S.RESISTOR	MCR10EZHJ 100 Ω (101)
R21	7030007540	S.RESISTOR	ERJ8ENF 3900V (390 Ω)
R22	7030007540	S.RESISTOR	ERJ8ENF 3800V (390 Ω)
R24	7030007540	S.RESISTOR	ERJ8ENF 3900V (380 Ω)
R26	7030007540	S.RESISTOR	ERJ6ENF 3900V (390 Ω)
R28	7030007530	S.RESISTOR	ERJ8ENF 1800V (180 Ω)
R30	7030007540	S.RESISTOR	ERJ8ENF 3800V (390 Ω)
R32	7030007540	S.RESISTOR	ERJ8ENF 3800V (390 Ω)
R34	7030007540	S.RESISTOR	ERJ8ENF 3800V (380 Ω)
R38	7030007540	S.RESISTOR	ERJ8ENF 3800V (380 Ω)
R38	7030007540	S.RESISTOR	ERJ8ENF 3900V (380 Ω)
R40	7030007540	S.RESISTOR	ERJ8ENF 3900V (390 Ω)
R42	7030007540	S.RESISTOR	ERJ8ENF 3900V (390 Ω)
R44	7030007540	S.RESISTOR	ERJ6ENF 3900V (390 Ω)
R48	7030007550	S.RESISTOR	ERJ8ENF 4700V (470 Ω)
R48	7030007550	S.RESISTOR	ERJ8ENF 4700V (470 Ω)
R50	7030007550	S.RESISTOR	ERJ8ENF 4700V (470 Ω)
R52	7030007550	S.RESISTOR	ERJ8ENF 4700V (470 Ω)
R54	7030007650	S.RESISTOR	ERJ8EN 1001V (1K Ω)
R56	7030007550	S.RESISTOR	ERJ8ENF 4700V (470 Ω)
R58	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R59	7030003310	S.RESISTOR	ERJ3GEYJ 820 V (82 Ω)
R60	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R61	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R62	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R63	7310004060	S.TRIMMER	EVM-1YSX50 B13 (102)
R64	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R65	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R66	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R67	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R68	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R69	7030000160	S.RESISTOR	MCR10EZHJ 22 Ω (220)
R71	7030007880	S.RESISTOR	ERJ8ENF 0470V (47 Ω)
R73	7030008270	S.RESISTOR	ERJ12YJ221H (220 Ω)
R74	7030000340	S.RESISTOR	MCR10EZHJ 470 Ω (471)
R75	7030000340	S.RESISTOR	MCR10EZHJ 470 Ω (471)
R77	7310004080	S.TRIMMER	EVM-1YSX50 B53 (502)

[RF-A UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R78	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R79	7030000300	S.RESISTOR	MCR10EZHJ 220 Ω (221)
R80	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R81	7030004850	S.RESISTOR	ERJ3GEYF 913 V (91 kΩ)
R82	7030003580	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R83	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R84	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R85	7030003330	S.RESISTOR	ERJ3GEYJ 121 V (120 Ω)
R88	7030003480	S.RESISTOR	ERJ3GEYJ 152 V (1.5 kΩ)
R87	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R86	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R89	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R90	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R91	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R82	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R83	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R94	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R85	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R96	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R97	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R101	7410000750	S.ARRAY	EXB-V4V 104JV (100 kΩ)
R102	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R103	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R104	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R105	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R108	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R107	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R108	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R110	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R111	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R112	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R113	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R114	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R115	7510000780	S.THERMISTOR	NTCCF2012 3SH 333KC-T
R118	7030003820	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
C1	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C2	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C3	4030008680	S.CERAMIC	C1808 JB 1H 102K-T-A
C4	4030007100	S.CERAMIC	C1808 CH 1H 580J-T-A
C5	4030007080	S.CERAMIC	C1808 CH 1H 270J-T-A
C8	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C7	4030007080	S.CERAMIC	C1808 CH 1H 470J-T-A
C8	4030007120	S.CERAMIC	C1808 CH 1H 620J-T-A
C10	4030009880	S.CERAMIC	C1808 JB 1H 102K-T-A
C11	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C12	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C13	4510004630	S.ELECTROLITIC	ECEV1CA100SR
C14	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C15	4030009830	S.CERAMIC	C1808 JB 1H 822K-T-A
C16	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A
C17	4030009860	S.CERAMIC	C1808 JB 1H 882K-T-A
C21	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C22	4030008470	S.CERAMIC	C1808 JB 1H 272K-T-A
C23	4030010760	S.CERAMIC	C1808 CH 1H 331J-T-A
C24	4030008670	S.CERAMIC	C1808 JB 1H 222K-T-A
C25	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C28	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C27	4030008470	S.CERAMIC	C1808 JB 1H 272K-T-A
C28	4030008470	S.CERAMIC	C1808 JB 1H 272K-T-A
C28	4030009980	S.CERAMIC	C1808 JB 1H 152K-T-A
C30	4030008680	S.CERAMIC	C1808 JB 1H 862K-T-A
C31	4030008870	S.CERAMIC	C1808 JB 1H 182K-T-A
C32	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C33	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C34	4030010020	S.CERAMIC	C1808 JB 1H 122K-T-A
C35	4030007150	S.CERAMIC	C1808 CH 1H 151J-T-A
C36	4030010020	S.CERAMIC	C1808 JB 1H 122K-T-A
C37	4030008920	S.CERAMIC	C1808 JB 1C 473K-T-A
C38	4030008470	S.CERAMIC	C1808 JB 1H 272K-T-A
C38	4030008880	S.CERAMIC	C1808 JB 1H 152K-T-A
C40	4030008920	S.CERAMIC	C1808 JB 1C 473K-T-A
C41	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C42	4030009970	S.CERAMIC	C1808 JB 1H 182K-T-A
C43	4030011260	S.CERAMIC	C1808 CH 1H 271J-T-A

S.=Surface mount

[RF-A UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C44	4030006860	S.CERAMIC	C1808 JB 1H 102K-T-A
C45	4030006820	S.CERAMIC	C1808 JB 1C 473K-T-A
C46	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C47	4030007110	S.CERAMIC	C1808 CH 1H 880J-T-A
C48	4030011280	S.CERAMIC	C1808 CH 1H 271J-T-A
C49	4030010020	S.CERAMIC	C1808 JB 1H 122K-T-A
C50	4030008770	S.CERAMIC	C1808 JB 1H 582K-T-A
C51	4030010040	S.CERAMIC	C1808 JB 1H 581K-T-A
C52	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C53	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C54	4030010780	S.CERAMIC	C1808 CH 1H 331J-T-A
C55	4030007100	S.CERAMIC	C1808 CH 1H 580J-T-A
C56	4030010780	S.CERAMIC	C1808 CH 1H 331J-T-A
C57	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A
C58	4030008870	S.CERAMIC	C1808 JB 1H 222K-T-A
C59	4030010760	S.CERAMIC	C1808 CH 1H 331J-T-A
C60	4030008920	S.CERAMIC	C1808 JB 1C 473K-T-A
C61	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C62	4030011280	S.CERAMIC	C1808 CH 1H 271J-T-A
C63	4030007100	S.CERAMIC	C1808 CH 1H 580J-T-A
C64	4030007150	S.CERAMIC	C1808 CH 1H 151J-T-A
C65	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C66	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C67	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C68	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C69	4030008920	S.CERAMIC	C1808 JB 1C 473K-T-A
C70	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C71	4030007070	S.CERAMIC	C1808 CH 1H 330J-T-A
C72	4030007140	S.CERAMIC	C1808 CH 1H 121J-T-A
C73	4030011280	S.CERAMIC	C1808 CH 1H 271J-T-A
C74	40300010020	S.CERAMIC	C1808 JB 1H 122K-T-A
C75	4030007150	S.CERAMIC	C1808 CH 1H 151J-T-A
C76	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C77	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C78	4030007140	S.CERAMIC	C1808 CH 1H 121J-T-A
C79	4030007080	S.CERAMIC	C1808 CH 1H 390J-T-A
C80	4030007110	S.CERAMIC	C1808 CH 1H 680J-T-A
C81	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A
C82	4030009490	S.CERAMIC	C1808 JB 1H 821K-T-A
C83	4030007120	S.CERAMIC	C1808 CH 1H 820J-T-A
C84	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C85	4030008820	S.CERAMIC	C1808 CH 1H 151J-T-A
C86	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C87	40300011800	S.CERAMIC	C1808 JB 1C 104KT-N
C88	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C89	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C90	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C91	4030008000	S.CERAMIC	C2012 JB 1C 224K-T-A
C92	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C93	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C94	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C95	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C96	4030008920	S.CERAMIC	C1808 JB 1C 473K-T-A
C97	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C98	4030007150	S.CERAMIC	C1808 CH 1H 151J-T-A
C99	4030007080	S.CERAMIC	C1808 CH 1H 470J-T-A
C100	4030007110	S.CERAMIC	C1808 CH 1H 880J-T-A
C101	40300011600	S.CERAMIC	C1808 JB 1C 104KT-N
C102	40300011800	S.CERAMIC	C1808 JB 1C 104KT-N
C103	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C104	4030007020	S.CERAMIC	C1808 CH 1H 120J-T-A
C105	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C106	4030008820	S.CERAMIC	C1808 CH 1H 050C-T-A
C107	4030008980	S.CERAMIC	C1808 CH 1H 30B-T-A
C108	4030008530	S.CERAMIC	C1808 CH 1H 473K-T-A
C109	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C110	40300011800	S.CERAMIC	C1808 JB 1C 104KT-N
C111	4030008920	S.CERAMIC	C1808 JB 1C 473K-T-A
C112	4030007040	S.CERAMIC	C1808 CH 1H 180J-T-A
C113	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C114	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C115	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C116	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C117	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C118	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
C119	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C120	4030007040	S.CERAMIC	C1808 CH 1H 180J-T-A
C121	4030007140	S.CERAMIC	C1808 CH 1H 121J-T-A
C122	4030007080	S.CERAMIC	C1808 CH 1H 470J-T-A
C123	4030007170	S.CERAMIC	C1808 CH 1H 221J-T-A

[RF-A UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C124	4030007140	S.CERAMIC	C1808 CH 1H 121J-T-A
C125	4030008660	S.CERAMIC	C1808 JB 1H 102K-T-A
C126	4030008620	S.CERAMIC	C1808 CH 1H 020B-T-A
C127	4030008680	S.CERAMIC	C1808 JB 1C 473K-T-A
C128	4030008680	S.CERAMIC	C1808 JB 1H 102K-T-A
C129	4030007070	S.CERAMIC	C1808 CH 1H 330J-T-A
C130	4030008650	S.CERAMIC	C1808 CH 1H 240J-T-A
C131	4030007080	S.CERAMIC	C1808 CH 1H 270J-T-A
C132	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C134	4530000410	S.ARRAY	EZANCE 471M 470P
C135	4030008620	S.CERAMIC	C1808 JB 1C 473K-T-A
C138	4030008620	S.CERAMIC	C1808 JB 1C 473K-T-A
C137	4530000400	S.ARRAY	EZANCE 220M 22P
C138	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C139	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C140	4030008660	S.CERAMIC	C1808 JB 1H 102K-T-A
C141	4030008680	S.CERAMIC	C1808 JB 1H 102K-T-A
C142	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C143	4030007110	S.CERAMIC	C1808 CH 1H 880J-T-A
C144	4030008680	S.CERAMIC	C1808 JB 1H 472K-T-A
C145	4030007150	S.CERAMIC	C1808 CH 1H 151J-T-A
C148	4030007150	S.CERAMIC	C1808 CH 1H 151J-T-A
C147	4030010210	S.CERAMIC	C3218 JB 1C 105M-T-A
C148	4030008820	S.CERAMIC	C1808 JB 1C 473K-T-A
RL1	8330000180	RELAY	MZ-12HG
RL2	8330000180	RELAY	MZ-12HG
J1	8450000150	CONNECTOR	JPJ2545-01-510
J2	8510007020	CONNECTOR	TMP-J01X-V8
J3	8510007020	CONNECTOR	TMP-J01X-V8
J4	8510018760	S.CONNECTOR	52810-1590
W3	7030003880	S.JUMPER	ERJ3GE JPW V
W4	7030003880	S.JUMPER	ERJ3GE JPW V
WS1	8800035480		J05RF-A
EP1	0810048303	PCB	B 4884C

[RF-B UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
IC1	1110002700	S.IC	NJM2804M-T1
IC2	1110003780	S.IC	NJM2802V-TE1
IC3	1110004130	S.IC	uPC2708T-E3
IC4	1180000450	S.IC	GN2011(TX)
IC8	1110004080	S.IC	uPC2708T-E3
IC7	1110002700	S.IC	NJM2804M-T1
O1	1580000830	S.FET	3SK228XR-TL
Q2	1580000830	S.FET	3SK228XR-TL
O3	1580000830	S.FET	3SK228XR-TL
O4	1580000830	S.FET	3SK228XR-TL
Q5	1580001770	S.TRANSISTOR	XP1213(TX)
Q6	1580001770	S.TRANSISTOR	XP1213(TX)
O7	1590001310	S.TRANSISTOR	XN1114(TX)
O8	1580001770	S.TRANSISTOR	XP1213(TX)
O9	1580001310	S.TRANSISTOR	XN1114(TX)
Q10	1580000430	S.TRANSISTOR	DTC144EU T107
O11	1580000810	S.FET	2SK1069-4-TR
Q12	1580000810	S.FET	2SK1068-4-TR
D1	1750000550	S.DIODE	1SS355 TE-17
D2	1750000550	S.DIODE	1SS355 TE-17

S.=Surface mount

[RF-B UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
D3	1720000600	S.VARICAP	HN2V02H-B (TE12R)
D4	1720000600	S.VARICAP	HN2V02H-B (TE12R)
D5	1730002430	S.ZENER	MA8150-M(TX)
D6	1750000530	S.DIODE	1SV271 (TPH3)
D7	1750000530	S.OIOOE	1SV271 (TPH3)
D8	1750000530	S.DIODE	1SV271 (TPH3)
D9	1720000270	S.VARICAP	1SV217 (TPH2)
D10	1720000270	S.VARICAP	1SV217 (TPH2)
D11	1720000270	S.VARICAP	1SV217 (TPH2)
D12	1720000270	S.VARICAP	1SV217 (TPH2)
D13	1750000530	S.DIODE	1SV271 (TPH3)
O14	1780000620	S.OIOOE	MA77(TW)
O15	1720000270	S.VARICAP	1SV217 (TPH2)
D16	1720000270	S.VARICAP	1SV217 (TPH2)
D17	1790000820	S.DIODE	MA77(TW)
D18	1790000840	S.VARICAP	MA363B(TX)
O20	1790000840	S.VARICAP	MA363B(TX)
D21	1790000840	S.VARICAP	MA363B(TX)
D22	1790000840	S.VARICAP	MA363B(TX)
D23	1790000840	S.VARICAP	MA363B(TX)
D24	1750000110	S.DIODE	1SS272 (TE85R)
D25	1750000530	S.OIOOE	1SV271 (TPH3)
D26	1750000530	S.DIODE	1SV271 (TPH3)
D27	1750000530	S.DIODE	1SV271 (TPH3)
D28	1750000530	S.DIODE	1SV271 (TPH3)
D29	1790000840	S.VARICAP	MA363B(TX)
O30	1760000640	S.VARICAP	MA363B(TX)
D31	1790000640	S.VARICAP	MA363B(TX)
O32	1790000840	S.VARICAP	MA363B(TX)
D33	1720000270	S.VARICAP	1SV217 (TPH2)
O34	1720000270	S.VARICAP	1SV217 (TPH2)
L1	6200003280	S.COIL	NL 322522T-101J
L2	6200002980	S.COIL	NL 322522T-R58J-3
L3	6200003020	S.COIL	NL 322522T-R33J-3
L4	6200001470	S.COIL	NL 322522T-R12J-3
L5	6200001470	S.COIL	NL 322522T-R12J-3
L6	6200004900	S.COIL	ELJFC 5R8K-F
L7	6200001470	S.COIL	NL 322522T-R12J-3
L8	6200003420	S.COIL	NL 322522T-R15J-3
L9	6200003010	S.COIL	NL 322522T-R27J-3
L10	6200003260	S.COIL	NL 322522T-101J
L11	6200001830	S.COIL	NL 322522T-100J
L12	6200003020	S.COIL	NL 322522T-R33J-3
L13	6200003010	S.COIL	NL 322522T-R27J-3
L14	6200003430	S.COIL	NL 322522T-R10J
L15	6200002820	S.COIL	LON 1A 47NJ04
L16	6200002820	S.COIL	LON 1A 47NJ04
L17	6200001820	S.COIL	ELJFC 1R0K-F
L18	6200002370	S.COIL	LON 1A 39NJ04
L19	6200002820	S.COIL	LON 1A 47NJ04
L20	6200003430	S.COIL	NL 322522T-R10J
L21	6200001830	S.COIL	NL 322522T-100J
L23	6200003330	S.COIL	NL 322522T-1R0J-3
L24	6200002350	S.COIL	LON 1A 27NJ04
L25	6200002820	S.COIL	LON 1A 47NJ04
L26	6200000720	S.COIL	LON 2A 10NM
L27	6200000720	S.COIL	LON 2A 10NM
L28	6200000720	S.COIL	LON 2A 10NM
L29	6200003250	S.COIL	NL 322522T-R39J-3
L30	6200002330	S.COIL	LON 1A 15NJ04
L31	6200000720	S.COIL	LON 2A 10NM
L32	6200002360	S.COIL	LON 1A 33NJ04
L33	6200003330	S.COIL	NL 322522T-1R0J-3
L35	6200002350	S.COIL	LON 1A 27NJ04
L36	6200005350	S.COIL	LL1806-F10N1
L37	6200005300	S.COIL	LL1808-F3N6S
L38	6200005300	S.COIL	LL1808-F3N9S
L39	6200002820	S.COIL	LON 1A 47NJ04
L41	6200005340	S.COIL	LL1806-F6N2J
L42	6200002330	S.COIL	LON 1A 15NJ04
L43	6200003330	S.COIL	NL 322522T-1R0J-3
L44	6200001830	S.COIL	NL 322522T-100J
L46	6200000720	S.COIL	LON 2A 10NM
L47	6200002330	S.COIL	LON 1A 15NJ04

[RF-B UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
L46	6200002100	S.COIL	LON 1A 17NJ04
L46	6200001830	S.COIL	NL 322522T-100J
L51	6200005290	S.COIL	LL1606-F3N3S
L52	6200002320	S.COIL	LON 1A 6N6J04
L53	6200005300	S.COIL	LL1608-F3N6S
L54	6200005320	S.COIL	LL1608-F5N8S
L55	6200005300	S.COIL	LL1606-F3N9S
L56	6200005260	S.COIL	LL1606-F3N3S
L57	6200003330	S.COIL	NL 322522T-1R0J-3
L56	6140002550	S.COIL	B4F-617DB-1010-P3
L59	6140002550	S.COIL	B4F-617DB-1010-P3
L80	6200003330	S.COIL	NL 322522T-1R0J-3
L61	6140002550	S.COIL	B4F-617OB-1010-P3
L62	6200003330	S.COIL	NL 322522T-1R0J-3
L64	6200005390	S.COIL	LL1608-F22NJ
L65	6200001770	S.COIL	ELJNC 47NK-F
L67	6200005300	S.COIL	LL1608-F3N9S
L69	6200005320	S.COIL	LL1608-F5N6S
L70	6200005370	S.COIL	LL1608-F15NJ
L72	6200005330	S.COIL	LL1608-F6N8J
L73	6200005420	S.COIL	LL1608-F30NJ
L74	6200005320	S.COIL	LL1608-F5N6S
L75	6200000720	S.COIL	LON 2A 10NM
L76	6200002320	S.COIL	LON 1A 6N8J04
L77	6200005330	S.COIL	LL1608-F6N8J
L78	6200006030	S.COIL	LOP11A 4N7C14
L78	6200005320	S.COIL	LL1608-F5N6S
L80	6200003030	S.COIL	NL 322522T-R47J-3
L81	6200003330	S.COIL	NL 322522T-1R0J-3
L82	6200005380	S.COIL	LL1808-F22NJ
R1	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R2	7410000560	S.ARRAY	EXB-V4V 473JV (47 kΩ)
R3	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R5	7030003250	S.RESISTOR	ERJ3GEYJ 270 V (27 Ω)
R6	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R7	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R8	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R10	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R11	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R12	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R13	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R15	7030003250	S.RESISTOR	ERJ3GEYJ 270 V (27 Ω)
R16	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R17	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R16	7030000370	S.RESISTOR	MCR10EZJH 620 Ω (821)
R20	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R21	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R23	7030003250	S.RESISTOR	ERJ3GEYJ 270 V (27 Ω)
R24	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R25	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R27	7030000370	S.RESISTOR	MCR10EZJH 820 Ω (821)
R28	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R29	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R30	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R31	7030003280	S.RESISTOR	ERJ3GEYJ 330 V (33 Ω)
R32	7030003310	S.RESISTOR	ERJ3GEYJ 820 V (82 Ω)
R33	7030003760	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R34	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R35	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R36	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R37	70300004030	S.RESISTOR	ERJ3GEYJ 5R6V (5.6 Ω)
R38	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R36	7410000750	S.ARRAY	EXB-V4V 104JV (100 kΩ)
R40	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R41	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R42	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R43	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R44	7030003480	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R45	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R46	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R48	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R46	7030003530	S.RESISTOR	ERJ3GEYJ 582 V (5.6 kΩ)
R50	7030003620	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R51	7030003680	S.RESISTOR	ERJ3GEYJ 683 V (88 kΩ)

S.=Surface mount

[RF-B UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R52	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R54	7030003590	S.RESISTOR	ERJ3GEYJ 163 V (18 kΩ)
R58	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R57	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 kΩ)
R58	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R58	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R82	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R83	7030003820	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R84	7030003630	S.RESISTOR	ERJ3GEYJ 383 V (38 kΩ)
R85	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 kΩ)
R88	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R88	7410000580	S.ARRAY	EXB-V4V 224JV (220 kΩ)
R69	7030003780	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R71	7030003510	S.RESISTOR	ERJ3GEYJ 382 V (3.8 kΩ)
R72	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R73	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R74	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R75	7030003880	S.RESISTOR	ERJ3GEYJ 883 V (88 kΩ)
R76	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R77	7030003780	S.RESISTOR	ERJ3GEYJ 474 V (470 kΩ)
R78	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R80	7410000800	S.ARRAY	EXB-V8V 103JV (10 kΩ)
R81	7410000800	S.ARRAY	EXB-V8V 103JV (10 kΩ)
R82	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R83	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R84	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R85	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R86	7410000750	S.ARRAY	EXB-V4V 104JV (100 kΩ)
R87	7410000590	S.ARRAY	EXB-V4V 473JV (47 kΩ)
R88	7030003480	S.RESISTOR	ERJ3GEYJ 272 V (2.7 kΩ)
R88	7030003820	S.RESISTOR	ERJ3GEYJ 333 V (33 kΩ)
R80	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R81	7030007880	S.RESISTOR	ERJ8ENF 0470V (47 Ω)
R82	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R93	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R84	7030004030	S.RESISTOR	ERJ3GEYJ 5R8 V (5.8 Ω)
R85	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R88	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R97	7030004030	S.RESISTOR	ERJ3GEYJ 5R8 V (5.8 Ω)
R98	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R98	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R100	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R105	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R108	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R107	7030004030	S.RESISTOR	ERJ3GEYJ 5R8 V (5.8 Ω)
R108	7030003400	S.RESISTOR	ERJ3GEYJ 471 V (470 Ω)
R109	7310004080	S.TRIMMER	EVM-1YSX50 B14 (103)
R110	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R111	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R112	7030003430	S.RESISTOR	ERJ3GEYJ 821 V (820 Ω)
R113	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R114	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R115	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
R118	7030003240	S.RESISTOR	ERJ3GEYJ 220 V (22 Ω)
C1	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A
C2	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A
C3	4030008860	S.CERAMIC	C1808 JB 1H 472K-T-A
C4	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C5	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C8	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C7	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C8	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C8	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C10	4030007050	S.CERAMIC	C1808 CH 1H 220J-T-A
C11	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C12	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C13	4030008880	S.CERAMIC	C1808 JB 1H 472K-T-A
C14	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A
C15	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A
C18	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C17	4030007070	S.CERAMIC	C1808 CH 1H 330J-T-A
C18	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C19	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C20	4030008860	S.CERAMIC	C1808 JB 1H 102K-T-A

[RF-B UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C21	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C22	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C23	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C24	4030008880	S.CERAMIC	C1808 CH 1H 050C-T-A
C25	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C28	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C27	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C28	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C28	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C30	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C31	4030008850	S.CERAMIC	C1808 CH 1H 240J-T-A
C32	4030007070	S.CERAMIC	C1808 CH 1H 330J-T-A
C33	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C34	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C38	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C37	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C38	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C38	4030009530	S.CERAMIC	C1808 CH 1H 030B-T-A
C40	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C41	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C43	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C44	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C45	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C46	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C47	4030007020	S.CERAMIC	C1808 CH 1H 120J-T-A
C48	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C49	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C50	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C51	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C52	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C53	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C54	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C55	4030009520	S.CERAMIC	C1808 CH 1H 020B-T-A
C56	4030008580	S.CERAMIC	C1808 CH 1H 300J-T-A
C57	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C59	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C60	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C61	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C66	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C71	4530000410	S.ARRAY	EZANCE 471M 470P
C72	4530000410	S.ARRAY	EZANCE 471M 470P
C73	4530000410	S.ARRAY	EZANCE 471M 470P
C75	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C78	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C77	4030011800	S.CERAMIC	C1808 JB 1C 104KT-N
C78	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C79	4510004440	S.ELECTROLITIC	ECEV1HA010SR
C80	4510004440	S.ELECTROLITIC	ECEV1HA010SR
C81	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C82	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C83	4030008850	S.CERAMIC	C1808 CH 1H 040C-T-A
C84	4030008590	S.CERAMIC	C1808 CH 1H 040C-T-A
C85	4030008890	S.CERAMIC	C1808 CH 1H 080D-T-A
C88	4030008520	S.CERAMIC	C1808 CH 1H 020B-T-A
C87	4030008880	S.CERAMIC	C1808 CH 1H 080D-T-A
C88	4030009500	S.CERAMIC	C1808 CH 1H 0R5B-T-A
C89	4030008850	S.CERAMIC	C1808 CH 1H 040C-T-A
C90	4030008800	S.CERAMIC	C1808 JB 1E 103K-T-A
C81	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C82	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C83	4030008890	S.CERAMIC	C1808 CH 1H 080D-T-A
C84	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C85	4030007090	S.CERAMIC	C1808 CH 1H 470J-T-A
C86	4030009520	S.CERAMIC	C1808 CH 1H 020B-T-A
C97	4030009510	S.CERAMIC	C1808 CH 1H 010B-T-A
C88	4030009520	S.CERAMIC	C1808 CH 1H 020B-T-A
C100	4030009540	S.CERAMIC	C1808 CH 1H 4R5B-T-A
C101	4030007080	S.CERAMIC	C1808 CH 1H 470J-T-A
C102	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C103	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C104	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C105	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C108	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C107	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C108	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C109	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A

S.=Surface mount

## [RF-B UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C110	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C111	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C112	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C117	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C118	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C119	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C120	4030007010	S.CERAMIC	C1806 CH 1H 100D-T-A
C121	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C122	4030008520	S.CERAMIC	C1806 CH 1H 020B-T-A
C123	4030008520	S.CERAMIC	C1806 CH 1H 020B-T-A
C124	4030008550	S.CERAMIC	C1806 CH 1H 2R5B-T-A
C125	4030008950	S.CERAMIC	C1806 CH 1H 040C-T-A
C126	4030008850	S.CERAMIC	C1806 CH 1H 040C-T-A
C127	4030008980	S.CERAMIC	C1806 CH 1H 050C-T-A
C128	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C129	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C130	4510004440	S.ELECTROLITIC	ECEV1HA010SR
C131	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C132	4030007060	S.CERAMIC	C1806 CH 1H 270J-T-A
C133	4030008530	S.CERAMIC	C1806 CH 1H 030B-T-A
C134	4030008580	S.CERAMIC	C1806 CH 1H R75B-T-A
C135	4030008510	S.CERAMIC	C1806 CH 1H 010B-T-A
C136	4510004440	S.ELECTROLITIC	ECEV1HA010SR
C137	4030008500	S.CERAMIC	C1806 CH 1H 0R5B-T-A
C138	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C139	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C140	4030008540	S.CERAMIC	C1806 CH 1H 1R5B-T-A
C141	4030008950	S.CERAMIC	C1806 CH 1H 040C-T-A
C142	4030008510	S.CERAMIC	C1806 CH 1H 010B-T-A
C143	4030008850	S.CERAMIC	C1806 CH 1H 040C-T-A
C144	4030008520	S.CERAMIC	C1806 CH 1H 020B-T-A
C145	4030008940	S.CERAMIC	C1806 CH 1H 030C-T-A
C146	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C147	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C148	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C149	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C150	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C151	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C152	4030008860	S.CERAMIC	C1806 JB 1H 102K-T-A
C153	4030008520	S.CERAMIC	C1806 CH 1H 020B-T-A
C154	4030008520	S.CERAMIC	C1806 CH 1H 020B-T-A
C155	4030009520	S.CERAMIC	C1806 CH 1H 020B-T-A
C156	4030007130	S.CERAMIC	C1806 CH 1H 101J-T-A
C157	4030007130	S.CERAMIC	C1806 CH 1H 101J-T-A
C158	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C159	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C160	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C161	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C162	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C163	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C164	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C165	4030008850	S.CERAMIC	C1806 JB 1H 471K-T-A
C166	4030007010	S.CERAMIC	C1806 CH 1H 100D-T-A
C167	4030007010	S.CERAMIC	C1806 CH 1H 100D-T-A
C168	4030007030	S.CERAMIC	C1806 CH 1H 150J-T-A
RL1	6330000810	RELAY	ARK115
RL2	6330000810	RELAY	ARK115
J1	6510007020	CONNECTOR	TMP-J01X-V6
J2	6510007020	CONNECTOR	TMP-J01X-V6
J3	6510018760	S.CONNECTOR	52810-1560
J4	6510007020	CONNECTOR	TMP-J01X-V6
W1	7030003680	S.JUMPER	ERJ3GE JPW V
W2	7030003680	S.JUMPER	ERJ3GE JPW V
W3	7030003680	S.JUMPER	ERJ3GE JPW V
W4	7030003680	S.JUMPER	ERJ3GE JPW V
W5	7030003680	S.JUMPER	ERJ3GE JPW V
W6	7030003680	S.JUMPER	ERJ3GE JPW V
W7	7030003680	S.JUMPER	ERJ3GE JPW V
EP1	0810046313	PCB	B 4685C

## [CONV UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
IC1	1110004080	S.I.C	GN1017-P/D
IC2	8810010230	S.I.C	5MXF25-7
IC3	1110004130	S.I.C	μPC2706T-E3
IC4	1130007670	S.I.C	MC145160FR2
IC5	1190000480	S.I.C	MQE001-1018
IC6	1110004130	S.I.C	μPC2706T-E3
IC7	1110002770	S.I.C	UPB564G
IC8	1110004080	S.I.C	μPC2706T-E3
IC9	1130007700	S.I.C	BU4094BCF-T1
IC10	1160000130	S.I.C	TD62763AF (TP1)
Q2	1580001770	S.TRANSISTDR	XP1213(TX)
D3	1580001000	S.TRANSISTOR	RN2427 (TE85R)
Q4	1580000430	S.TRANSISTOR	DTC144EU T107
Q5	1580001000	S.TRANSISTOR	RN2427 (TE85R)
Q6	1580000430	S.TRANSISTOR	DTC144EU T107
Q7	1590001770	S.TRANSISTOR	XP1213(TX)
O10	1580001330	S.TRANSISTOR	DTA114EU T107
O11	1530003450	S.TRANSISTOR	2SC4835-R(TX)
D12	1530003450	S.TRANSISTOR	2SC4835-R(TX)
O13	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q14	1580001000	S.TRANSISTDR	RN2427 (TE85R)
D1	1750000550	S.DIDDE	1SS355 TE-17
D3	1720000270	S.VARICAP	1SV217 (TPH2)
D4	1720000270	S.VARICAP	1SV217 (TPH2)
D5	1720000270	S.VARICAP	1SV217 (TPH2)
D8	1750000550	S.DIODE	1SS355 TE-17
D7	1780000820	S.DIDDE	MA77(TW)
D6	1780000820	S.DIODE	MA77(TW)
D8	1790000820	S.DIDDE	MA77(TW)
D10	1790000820	S.DIODE	MA77(TW)
D11	1750000210	S.DIODE	1SV237 (TE85R)
D12	1750000210	S.DIDDE	1SV237 (TE85R)
D13	1750000210	S.DIODE	1SV237 (TE85R)
D14	1750000210	S.DIODE	1SV237 (TE85R)
D15	1750000530	S.DIDDE	1SV271 (TPH3)
D16	1750000530	S.DIODE	1SV271 (TPH3)
D17	1750000530	S.DIDDE	1SV271 (TPH3)
D18	1750000530	S.DIODE	1SV271 (TPH3)
D16	1750000550	S.DIODE	1SS355 TE-17
D20	1720000270	S.VARICAP	1SV217 (TPH2)
D21	1720000270	S.VARICAP	1SV217 (TPH2)
D22	1760000660	S.DIODE	MA726(TW)
L2	6200005330	S.COIL	LL1608-F6N8J
L3	6200000050	S.COIL	LOP11A 6N6C14
L4	6200008040	S.CDIL	LDP11A 5N8C14
L5	6200005350	S.COIL	LL1608-F10NJ
L6	6200001620	S.CDIL	ELJFC 1R0K-F
L10	6200005410	S.CDIL	LL1606-F33NJ
L11	6200003330	S.COIL	NL 322522T-1R0J-3
L12	6200005300	S.CDIL	LL1606-F3N6S
L18	6200001680	S.CDIL	NL 252016T-1R0J
L17	6200001660	S.COIL	NL 252016T-1R0J
L16	6200001660	S.COIL	NL 252016T-1R0J
L16	6200001960	S.COIL	NL 252016T-1R0J
L20	6200001880	S.CDIL	NL 252016T-1R0J
L21	6200001960	S.COIL	NL 252016T-1R0J
L22	6200001960	S.CDIL	NL 252016T-1R0J
L23	6200001680	S.CDIL	NL 252016T-1R0J
L24	6200003550	S.COIL	MLF1608A 4R7K-T
L25	6200001620	S.COIL	ELJFC 1R0K-F
L27	6200003330	S.CDIL	NL 322522T-1R0J-3
L26	6200001620	S.COIL	ELJFC 1R0K-F
L26	6200005340	S.CDIL	LL1606-F8N2J
L30	6200005350	S.CDIL	LL1606-F10NJ
L31	6200001770	S.COIL	ELJNC 47NK-F
L32	6200001620	S.CDIL	ELJFC 1R0K-F
L36	6200001770	S.COIL	ELJNC 47NK-F
L40	6200001770	S.COIL	ELJNC 47NK-F
L41	6200001770	S.COIL	ELJNC 47NK-F
L42	6200003330	S.COIL	NL 322522T-1R0J-3

S.=Surface mount

## [CONV UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
L43	6200005380	S.COIL	LL1808-F12NJ
L44	6200005380	S.COIL	LL1808-F16NJ
L45	6200005380	S.COIL	LL1808-F18NJ
L48	6200003330	S.COIL	NL 322522T-1R0J-3
L47	6200005330	S.COIL	LL1808-F8N8J
L48	6200005340	S.COIL	LL1808-F8N2J
L48	6200005340	S.COIL	LL1808-F8N2J
L50	6200001770	S.COIL	ELINC 47NK-F
L52	6200001770	S.COIL	ELINC 47NK-F
L53	8200005380	S.COIL	LL1808-F12NJ
L54	8200005380	S.COIL	LL1808-F12NJ
L58	8200005350	S.COIL	LL1808-F10NJ
L57	8200003250	S.COIL	NL 322522T-R36J-3
L58	8200005310	S.COIL	LL1808-F4N7S
L58	8200003000	S.COIL	NL 322522T-R22J-3
R1	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 kΩ)
R2	7030003840	S.RESISTOR	ERJ3GEYJ 473 V (47 kΩ)
R3	7030003880	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R4	7410000580	S.ARRAY	EXB-V4V 473V (47 kΩ)
R5	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R6	7030003830	S.RESISTOR	ERJ3GEYJ 363 V (39 kΩ)
R7	7030003570	S.RESISTOR	ERJ3GEYJ 123 V (12 kΩ)
R8	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R9	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R11	7030003380	S.RESISTOR	ERJ3GEYJ 391 V (390 Ω)
R12	7030003210	S.RESISTOR	ERJ3GEYJ 120 V (12 Ω)
R13	7030003390	S.RESISTOR	ERJ3GEYJ 361 V (360 Ω)
R14	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 Ω)
R15	703000370	S.RESISTOR	MCR10EZJH 820 Ω (821)
R16	703000340	S.RESISTOR	MCR10EZJH 470 Ω (471)
R17	7030000240	S.RESISTOR	MCR10EZJH 88 Ω (880)
R18	7030000290	S.RESISTOR	MCR10EZJH 180 Ω (161)
R19	7030000240	S.RESISTOR	MCR10EZJH 88 Ω (880)
R20	703000340	S.RESISTOR	MCR10EZJH 470 Ω (471)
R21	7030000370	S.RESISTOR	MCR10EZJH 820 Ω (821)
R23	7030000370	S.RESISTOR	MCR10EZJH 820 Ω (821)
R24	7030000340	S.RESISTOR	MCR10EZJH 470 Ω (471)
R25	7030000270	S.RESISTOR	MCR10EZJH 120 Ω (121)
R26	7030000230	S.RESISTOR	MCR10EZJH 58 Ω (580)
R27	7030000270	S.RESISTOR	MCR10EZJH 120 Ω (121)
R26	7030000340	S.RESISTOR	MCR10EZJH 470 Ω (471)
R29	7030000370	S.RESISTOR	MCR10EZJH 820 Ω (821)
R30	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R31	7410001090	S.ARRAY	EXB-V8V 100JV
R32	7030003320	S.RESISTOR	ERJ3GEYJ 101 V (100 Ω)
R34	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R35	7030003580	S.RESISTOR	ERJ3GEYJ 183 V (18 kΩ)
R37	7030003500	S.RESISTOR	ERJ3GEYJ 332 V (3.3 kΩ)
R38	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R39	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R40	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R41	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R42	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (180 Ω)
R43	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R44	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R45	7030003410	S.RESISTOR	ERJ3GEYJ 581 V (580 Ω)
R46	7030003410	S.RESISTOR	ERJ3GEYJ 581 V (580 Ω)
R47	7030003410	S.RESISTOR	ERJ3GEYJ 581 V (580 Ω)
R48	7030003410	S.RESISTOR	ERJ3GEYJ 581 V (580 Ω)
R49	7030003380	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)
R50	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R51	7030005280	S.RESISTOR	ERJ3GEYJ 8R8V (8.8 Ω)
R52	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R53	7410000830	S.ARRAY	EXB-V4V 103JV (10 kΩ)
R54	7030003580	S.RESISTOR	ERJ3GEYJ 103 V (10 kΩ)
R55	7310004080	S.TRIMMER	EVM-1YSX50 B14 (103)
R56	7030003600	S.RESISTOR	ERJ3GEYJ 223 V (22 kΩ)
R57	7030003460	S.RESISTOR	ERJ3GEYJ 222 V (2.2 kΩ)
R58	7030003370	S.RESISTOR	ERJ3GEYJ 271 V (270 Ω)
R61	7030003230	S.RESISTOR	ERJ3GEYJ 180 V (18 Ω)
R62	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R64	7410000830	S.ARRAY	EXB-V4V 103JV (10 kΩ)
R65	7410000830	S.ARRAY	EXB-V4V 103JV (10 kΩ)
R66	7030003360	S.RESISTOR	ERJ3GEYJ 221 V (220 Ω)

## [CONV UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
R87	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R86	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 Ω)
R89	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R70	7030003420	S.RESISTOR	ERJ3GEYJ 661 V (660 Ω)
R71	7030005280	S.RESISTOR	ERJ3GEYJ 8R8V (8.8 Ω)
R72	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 Ω)
R73	7030003520	S.RESISTOR	ERJ3GEYJ 472 V (4.7 kΩ)
R74	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R75	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 kΩ)
R78	7030003350	S.RESISTOR	ERJ3GEYJ 161 V (160 Ω)
R77	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 kΩ)
R76	7030003280	S.RESISTOR	ERJ3GEYJ 470 V (47 Ω)
R79	7030003350	S.RESISTOR	ERJ3GEYJ 181 V (160 Ω)
C1	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C2	4030008530	S.CERAMIC	C1808 CH 1H 030B-T-A
C8	4030009530	S.CERAMIC	C1808 CH 1H 030B-T-A
C6	4030009520	S.CERAMIC	C1608 CH 1H 020B-T-A
C8	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C11	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C12	4030006880	S.CERAMIC	C1808 CH 1H 060D-T-A
C13	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C14	4030007010	S.CERAMIC	C1608 CH 1H 100D-T-A
C16	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C17	4030007130	S.CERAMIC	C1808 CH 1H 101J-T-A
C18	4030006580	S.CERAMIC	C1808 CH 1H 300J-T-A
C21	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C24	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C25	4030006890	S.CERAMIC	C1608 CH 1H 060D-T-A
C26	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C27	4030006530	S.CERAMIC	C1608 CH 1H 030B-T-A
C28	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C34	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C36	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C37	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C38	4030006880	S.CERAMIC	C1608 JB 1H 102K-T-A
C39	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C40	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C41	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C42	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C43	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C44	4030006880	S.CERAMIC	C1608 JB 1H 102K-T-A
C45	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C46	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C47	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C48	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C49	4030006660	S.CERAMIC	C1608 CH 1H 101J-T-A
C50	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C51	4030007130	S.CERAMIC	C1608 CH 1H 101J-T-A
C52	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C53	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C54	4030006920	S.CERAMIC	C1608 JB 1C 473K-T-A
C55	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C56	4030006820	S.CERAMIC	C1608 JB 1C 473K-T-A
C57	4030006920	S.CERAMIC	C1608 JB 1C 473K-T-A
C58	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C60	4550006270	S.TANTALUM	TESVSP 1A 105M-8L
C61	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C62	4030011600	S.CERAMIC	C1808 JB 1C 104KT-N
C63	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C64	4550006270	S.TANTALUM	TESVSP 1A 105M-8L
C66	4030006660	S.CERAMIC	C1608 JB 1E 103K-T-A
C67	4550000530	S.TANTALUM	TESVA 1V 104M1-8L
C69	4030006660	S.CERAMIC	C1608 JB 1H 102K-T-A
C70	4030007090	S.CERAMIC	C1608 CH 1H 470J-T-A
C71	4510005300	S.ELECTROLITIC	ECEV1AA330SR
C74	4030006650	S.CERAMIC	C1608 JB 1H 471K-T-A
C75	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C78	4030006530	S.CERAMIC	C1608 CH 1H 030B-T-A
C77	4030009500	S.CERAMIC	C1608 CH 1H 0R5B-T-A
C78	4030006530	S.CERAMIC	C1608 CH 1H 030B-T-A
C79	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C80	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C81	4030006650	S.CERAMIC	C1608 JB 1H 471K-T-A
C82	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A

S.=Surface mount

[CONV UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
C63	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C84	4030008880	S.CERAMIC	C1606 JB 1H 102K-T-A
C85	4030007060	S.CERAMIC	C1606 CH 1H 470J-T-A
C88	4030008850	S.CERAMIC	C1606 JB 1H 471K-T-A
C87	4030008650	S.CERAMIC	C1606 JB 1H 471K-T-A
C93	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C84	4030007080	S.CERAMIC	C1608 CH 1H 470J-T-A
C100	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C101	4030008850	S.CERAMIC	C1606 JB 1H 471K-T-A
C102	4030007060	S.CERAMIC	C1806 CH 1H 470J-T-A
C103	4030008650	S.CERAMIC	C1608 JB 1H 471K-T-A
C104	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C105	4030007060	S.CERAMIC	C1808 CH 1H 470J-T-A
C107	4030008880	S.CERAMIC	C1808 JB 1H 102K-T-A
C108	4030006880	S.CERAMIC	C1608 JB 1H 102K-T-A
C106	4030006660	S.CERAMIC	C1808 JB 1H 102K-T-A
C111	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C112	4030011800	S.CERAMIC	C1806 JB 1C 104KT-N
C113	4030007080	S.CERAMIC	C1606 CH 1H 470J-T-A
C114	4030008880	S.CERAMIC	C1608 JB 1H 102K-T-A
C115	4030006880	S.CERAMIC	C1808 CH 1H 060D-T-A
C117	4030006870	S.CERAMIC	C1806 CH 1H 080O-T-A
C118	4030008530	S.CERAMIC	C1808 CH 1H 030B-T-A
C120	4030007080	S.CERAMIC	C1606 CH 1H 470J-T-A
C121	4030008850	S.CERAMIC	C1608 JB 1H 471K-T-A
C122	4030008650	S.CERAMIC	C1808 CH 1H 040C-T-A
C124	4030009530	S.CERAMIC	C1608 CH 1H 030B-T-A
C125	4030008500	S.CERAMIC	C1508 CH 1H 0R5B-T-A
C126	4030009520	S.CERAMIC	C1606 CH 1H 020B-T-A
C127	4030007060	S.CERAMIC	C1808 CH 1H 470J-T-A
C128	4030008850	S.CERAMIC	C1608 JB 1H 471K-T-A
C129	4030006650	S.CERAMIC	C1808 JB 1H 471K-T-A
C130	4030009530	S.CERAMIC	C1808 CH 1H 030B-T-A
C131	4030006680	S.CERAMIC	C1608 JB 1H 102K-T-A
C132	4030006880	S.CERAMIC	C1808 JB 1H 102K-T-A
C135	4030006580	S.CERAMIC	C1606 JB 1H 102K-T-A
C138	4030008850	S.CERAMIC	C1808 JB 1H 471K-T-A
C137	4030006980	S.CERAMIC	C1808 CH 1H 050C-T-A
C138	4030007010	S.CERAMIC	C1606 CH 1H 100D-T-A
C138	4030008520	S.CERAMIC	C1808 CH 1H 020B-T-A
C140	4030007010	S.CERAMIC	C1808 CH 1H 100D-T-A
C141	4030008850	S.CERAMIC	C1808 CH 1H 040C-T-A
C142	4030006880	S.CERAMIC	C1808 CH 1H 050C-T-A
C143	4030008520	S.CERAMIC	C1808 CH 1H 020B-T-A
C144	4030008850	S.CERAMIC	C1608 JB 1H 471K-T-A
C145	4030008680	S.CERAMIC	C1606 JB 1H 102K-T-A
C148	4030008880	S.CERAMIC	C1608 JB 1H 472K-T-A
C147	4030011800	S.CERAMIC	C1606 JB 1C 104KT-N
C148	4550000480	S.TANTALUM	TESVA 1C 105M1-8L
C146	4030007010	S.CERAMIC	C1608 CH 1H 1000-T-A
C150	4030006850	S.CERAMIC	C1808 JB 1H 471K-T-A
C151	4030006650	S.CERAMIC	C1606 JB 1H 471K-T-A
C152	4030006650	S.CERAMIC	C1608 JB 1H 471K-T-A
C154	4030006650	S.CERAMIC	C1608 JB 1H 471K-T-A
C155	4530000400	S.ARRAY	EZANCE 220M 22P
C158	4530000400	S.ARRAY	EZANCE 220M 22P
C163	4030006880	S.CERAMIC	C1606 JB 1H 102K-T-A
C184	4030007140	S.CERAMIC	C1606 CH 1H 121J-T-A
C185	4030007140	S.CERAMIC	C1808 CH 1H 121J-T-A
C188	4030006880	S.CERAMIC	C1608 JB 1H 102K-T-A
C167	4030007050	S.CERAMIC	C1606 CH 1H 220J-T-A
C166	4030006500	S.CERAMIC	C1606 CH 1H 0R5B-T-A
C169	4030008500	S.CERAMIC	C1608 CH 1H 0R5B-T-A
C170	4030006520	S.CERAMIC	C1608 CH 1H 020B-T-A
C171	4030006680	S.CERAMIC	C1808 JB 1H 102K-T-A
C172	4030006680	S.CERAMIC	C1608 JB 1H 102K-T-A
C173	4030007010	S.CERAMIC	C1808 CH 1H 1000-T-A
C174	4030008880	S.CERAMIC	C1608 JB 1H 102K-T-A
C175	4030011800	S.CERAMIC	C1608 JB 1C 104KT-N
C178	4030006880	S.CERAMIC	C1608 JB 1H 102K-T-A
C177	4030011600	S.CERAMIC	C1606 JB 1C 104KT-N
RL1	8330000810	RELAY	ARK115
RL2	8330000810	RELAY	ARK115

[CONV UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	
J1	8510019140	S.CONNECTOR	52810-1080
J2	8510007020	CONNECTOR	TMP-J01X-V6
W3	7030003880	S.JUMPER	ERJ3GE JPW V
W4	7030003880	S.JUMPER	ERJ3GE JPW V
W5	7030003880	S.JUMPER	ERJ3GE JPW V
W7	7030003880	S.JUMPER	ERJ3GE JPW V
W8	7030003880	S.JUMPER	ERJ3GE JPW V
W6	7030003880	S.JUMPER	ERJ3GE JPW V
EP1	0810048323	PCB	B 4666C

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S.=Surface mount

# SECTION 7 MECHANICAL PARTS

## [FRONT PARTS]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
S1	2260001260	Switch SW-118	1
S2	2250000330	Encoder SW-163	1
W8	8900006680	Cable OPC-643	1
W9	8900006690	Cable OPC-644	1
W10	8900006700	Cable OPC-645	1
W11	8900006700	Cable OPC-645	1
WS1	8600035430	Cable P01FR	1
WS2	8600035440	Cable P02FR	1
EP1	6450001230	Snap plate HLJ0999-01-480	1
ME1	5510000440	Meter ME-36	1
MP1	8210013401	1768 front panel -1	1
MP2	8310037470	1768 window plate with tape	1
MP4	8010016590	1768 sub chassis	1
MP5	8930039190	1768 12-key	1
MP6	8930039880	1768 26-key (A)	1
MP7	8610010240	Button K201 (C)	1
MP8	8610008440	Button K201 spacer	1
MP9	8930027110	Spring (P)	1
MP10	8610008431	Button K202-1	1
MP11	8930017960	Spring	1
MP12	8610010190	Knob N242	2
MP13	8610010200	Knob N243	1
MP14..	8610010220	Knob N243 (A)	1
MP16 -	8610010210	Knob N244	2
MP17	8610009230	Knob N213 (assembly)	1
MP18	8610009170	Knob N-213 cover	1
MP21	8930013990	610 brake plate	1
MP22	8930014030	610 brake pad	1
MP23	8930013940	810 knob shell	1
MP24	8820000770	1296 screw	1
MP25	8850001330	Insulation flat washer (M)	1
MP26	8810009180	Screw FFH B0 No.0 M2 x 5 NI-ZU (BT)	4
MP27	8810009180	Screw FFH B0 No.0 M2 x 5 NI-ZU (BT)	5
MP28	8810009060	Screw FH M3 x 6 ZK	2
MP29	8810009060	Screw FH M3 x 6 ZK	4
MP30	8810008680	Screw PH B0 M3 x 8 NI-ZU (BT)	1
MP31	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	4
MP32	8810003160	Setscrew A M3 x 8	1
MP33	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	1
MP34	8610006820	Knob spring No. 6600	2

## [JACK BOARD]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6450001440	Connector HSJ1403-01-010	1
J2	6450001440	Connector HSJ1403-01-010	1
J3	6450001250	Connector HLJ4306-01-3070	1

## [MAIN UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J14	6450001700	Connector HEC0740-010010 [DC IN]	1
J17	6450000150	Connector JPJ2545-01-510 [IF OUT]	1
J18	6450000150	Connector JPJ2545-01-510 [AGC]	1
J21	6450000140	Connector HSJ0807-01-010 [EXT SP]	1
J22	6450000140	Connector HSJ0807-01-010 [REMOTE]	1
J23	6510019650	Connector DBLC-J25SAF-23L8 [RS-232C]	1

## [RF-A UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6450000150	Connector JPJ2545-01-510 [HF 500Ω ANT]	1

## [CHASSIS PARTS]

REF. NO.	QRDER NO.	DESCRIPTION	QTY.
J3	6510001910	Connector 1490P [DC 13.8V]	1
P2	6510004940	Short-circuit plug 1490R1 (incl. pins, wire)	1

## [COVER PARTS]

REF. NO.	QRDER NO.	DESCRIPTION	QTY.
MP1	8110005780	1768 T-cover	1
MP2	8110005790	1768 L-cover	1
MP4	8930006390	SP holder	1
MP6	8930005790	Collar foot (A)	1
MP7	8930005800	Collar foot (B)	1
MP8	8930002900	Rubber foot (A) SK1912A	2
MP9	8010001520	Stand (C)	1
MP10	8810009030	Screw OH M3 x 8 ZK	4
MP11	8810009130	Screw PH B0 M3 x 12 NI-ZU (BT)	2
MP12	8810009130	Screw PH B0 M3 x 12 NI-ZU (BT)	4
MP13	8810009030	Screw OH M3 x 8 ZK	16
MP15	8930041160	Sheet BO	2
SP1	2510000040	Speaker C065K12I0810	1
WS1	8600035520	Cable P01CO	1

## [UNPACKING]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
F1	5210000220	Fuse FGMB 125 V 3 A	1
F2	5210000050	Fuse FGB 3 A	2
J1	6510013440	Phono plug TP-M60	2
P1	5610000020	Mini plug AP313 3.5 (d) mm	1
W1	Optional product	DC power cable OPC-023 C	1
MP1	8810003080	Screw OH M4 x 12 CR BS	2
MP2	8810003380	Allen bolt M5 x 8 NI (+)	4
MP3	8810001650	Screw PH FT M3 x 6	4

## [DISP UNIT]

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
R41	7210002850	Variable resistor RV-305 10kB	1
R43	7210002850	Variable resistor RV-305 10kB	1
S1	2230000970	Switch ESB-64620	1
DS1	5030001360	LCD DLC-7982YBGT	1
EP2	8930041150	LCD contact SRCN-1768 SP-N-W	2
MP2	8930039210	1768 LCD holder	1
MP3	8210013470	1768 reflector	1
MP4	8930039170	1768 LCD filter	1

## [VR-A BOARD]

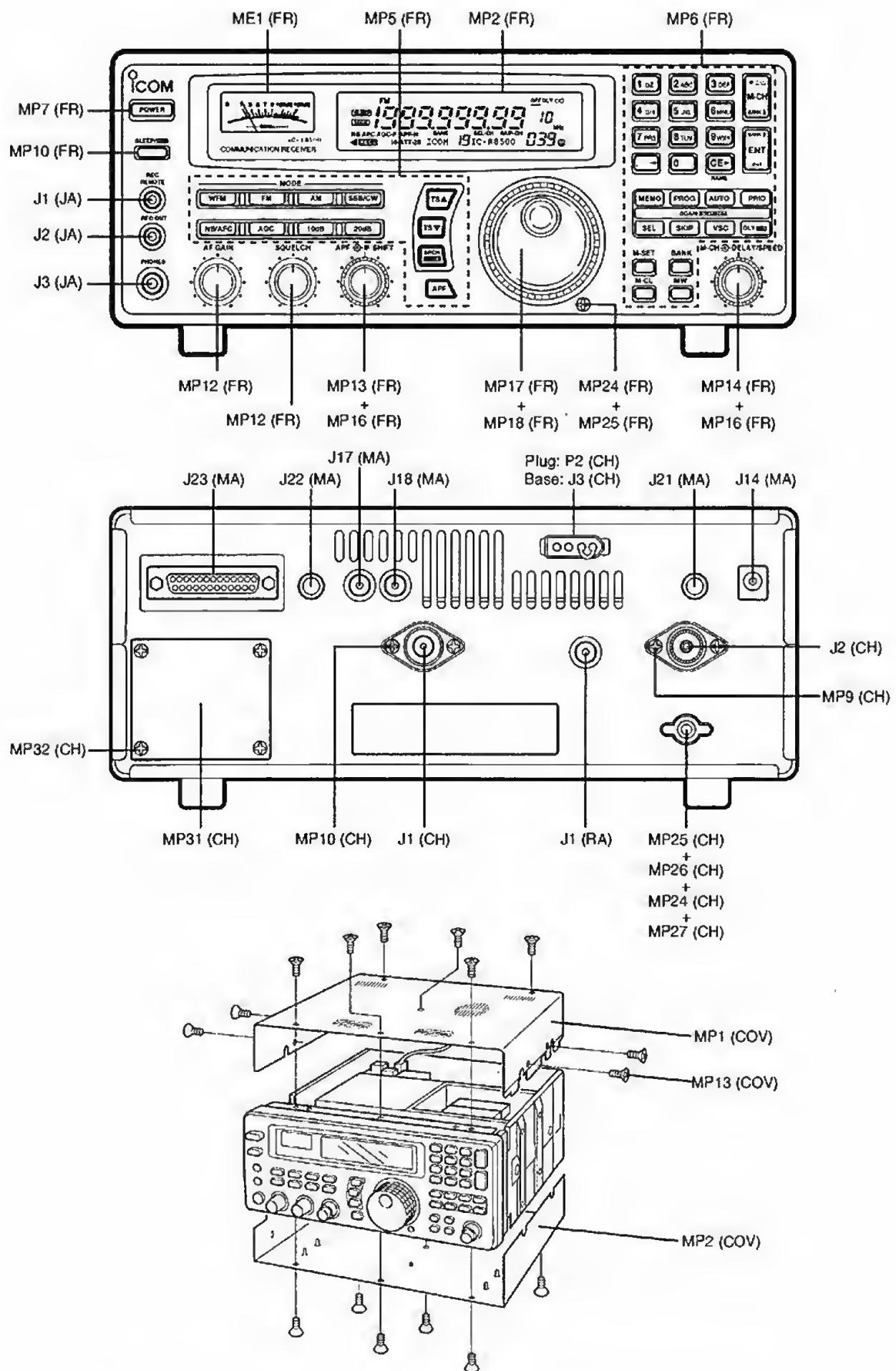
REF. NO.	ORDER NO.	DESCRIPTION	QTY.
R1	7210002860	Variable resistor RV-305 10kB/10kB (incl. nut, washer)	1

## [VR-B BOARD]

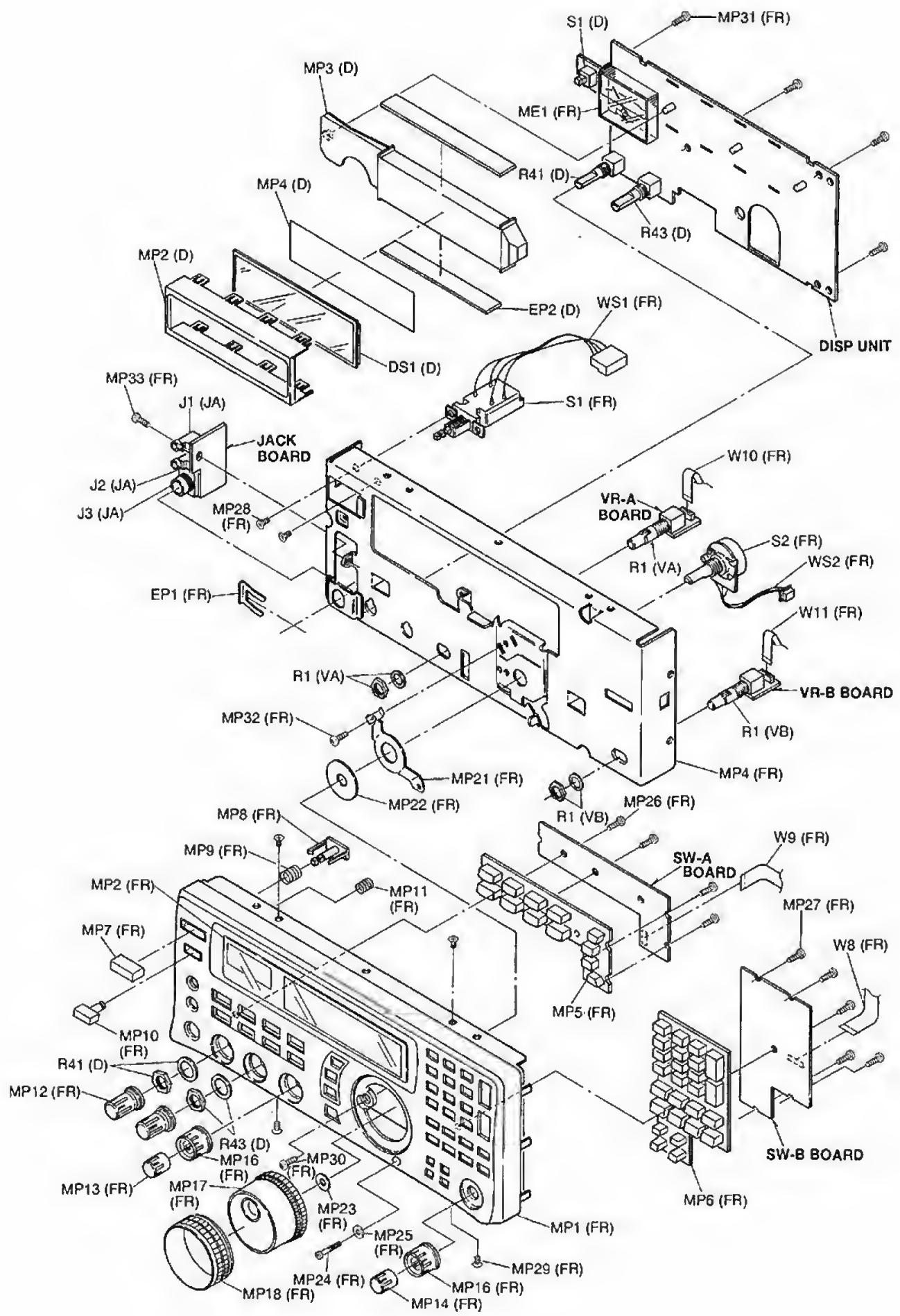
REF. NO.	ORDER NO.	DESCRIPTION	QTY.
R1	7210002870	Variable resistor RV-307 Switch/10kB (incl. nut, washer)	1

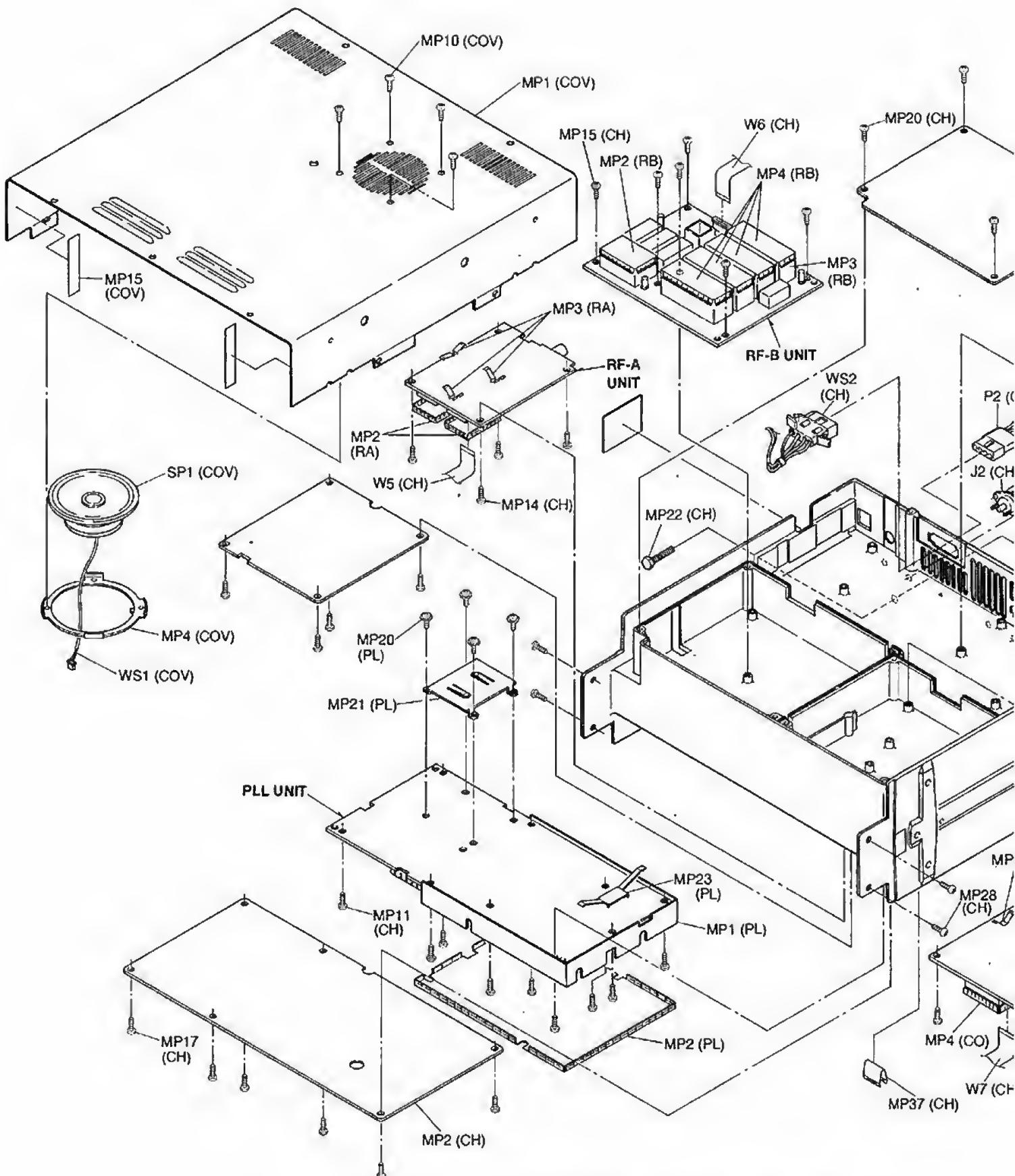
## Screw abbreviations

B0, BT: Self-tapping  
 PH: Pan head      FH: Flat head  
 FFH: Flat filister head  
 OH: Oval countersunk head  
 NI: Nickel      NI-ZU: Nickel-zinc  
 BS: Brass      ŽK: Black

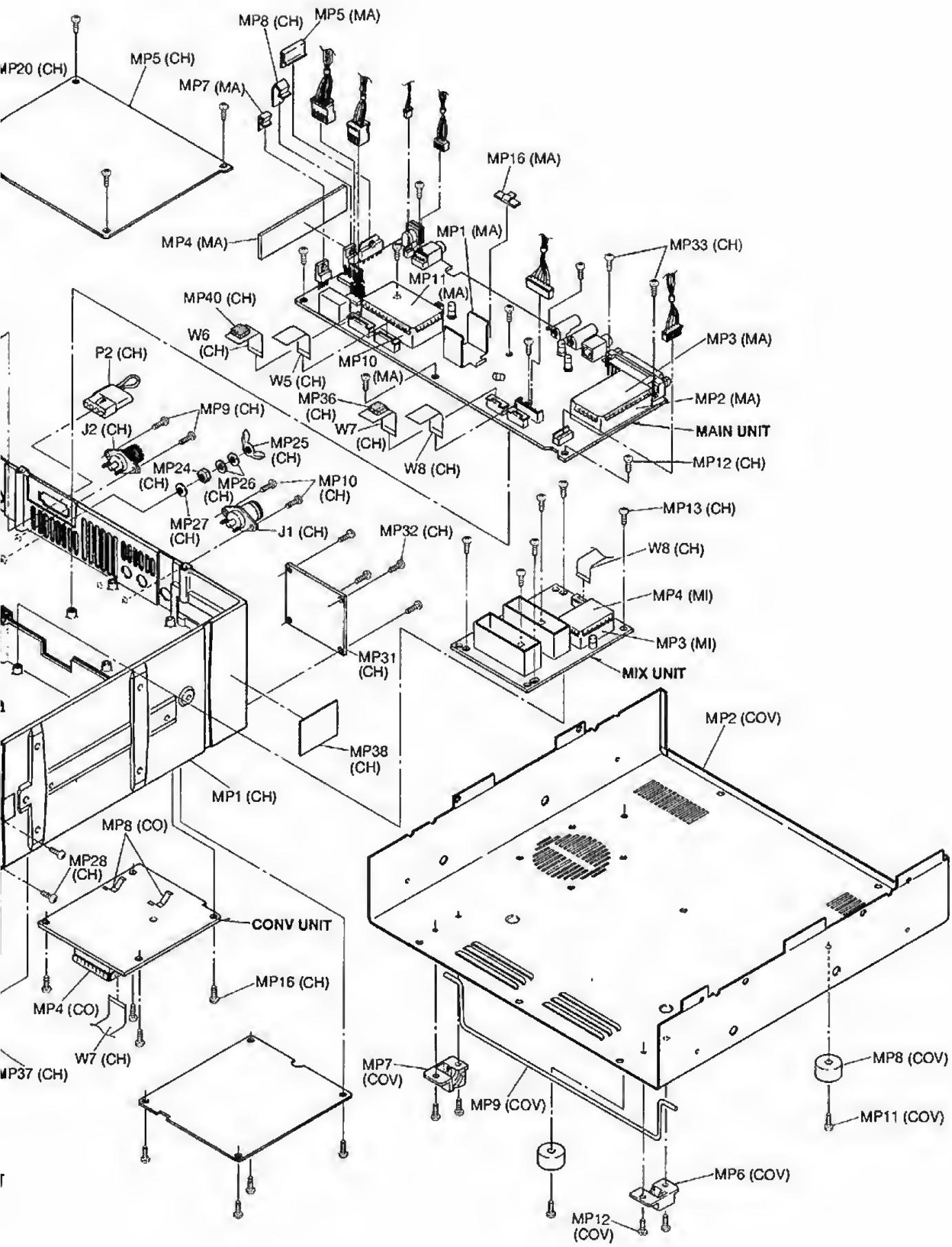


**Unit abbreviations** (CH): CHASSIS PARTS (FR): FRONT PARTS (D): DISP UNIT (RA): RF-A UNIT (MA): MAIN UNIT (COV): COVER PARTS (JA): JACK BOARD (VA): VR-A BOARD (VB): VR-B BOARD





**Unit abbreviations** (CH): CHASSIS PARTS (MA): MAIN UNIT (PL): PLL UNIT  
 (RA): RF-A UNIT (RB): RF-B UNIT (CO): CONV UNIT  
 (MI): MIX UNIT (COV): COVER PARTS



**[PLL UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
W21	8900004510	Cable OPC-452 A	1
MP1	8510010690	1768 PLL case	1
MP2	8510010650	1768 PLL cover	1
MP3	8510008300	963 DDS shield case	1
MP4	8510008310	963 DDS shield cover	1
MP5	8510005330	Coil case	1
MP6	8510010070	1691 DDS case	1
MP7	8510003510	406 shield case cover	1
MP8	8510010150	1691 D/A case	1
MP11	8510005330	Coil case	1
MP12	8510008300	963 DDS shield case	1
MP13	8510008310	963 DDS shield cover	1
MP14	8510000881	194 VCO case -1	1
MP15	8510010220	1768 D-shield cover	1
MP16	8510000470	MIX shield case	1
MP17	8510002390	Mixer shield case	1
MP18	8510010210	1768 C-shield cover	1
MP19	8930012060	Prescaler case	1
MP20	8810003160	Setscrew A M3 x 6	4
MP21	8510007110	868 PLL-shield	1
MP23	8510010250	1705 shield plate	1
MP24	8510002390	Mixer shield case	1
MP25	8510010210	1768 C-shield cover	1
MP26	8510002390	Mixer shield case	1
MP27	8510010210	1768 C-shield cover	1
MP28	8930017260	758 module ground spring	1

**[RF-A UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510000881	194 VCO case -1	2
MP2	8510010220	1768 D-shield cover	2
MP3	8930014140	Ground spring (D)	3

**[RF-B UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510000881	194 VCO case -1	1
MP2	8510010220	1768 D-shield cover	1
MP3	8510010170	1768 A-shield case	4
MP4	8510010190	1768 A-shield cover	4
MP5	8510000020	194 shield case	1
MP6	8510000470	MIX shield case	3
MP8	8510010250	1705 shield plate	2
MP9	8930014140	Ground spring (D)	1

**[CONV UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510003050	Helical case B	2
MP3	8510000881	194 VCO case -1	2
MP4	8510010220	1768 D-shield cover	2
MP5	8510000470	MIX shield case	3
MP6	8510002390	Mixer shield case	1
MP7	8510010210	1768 C-shield cover	1
MP8	8930014140	Ground spring (D)	2
MP9	8930001180	Ground plate	1

**[VCO-A BOARD]**

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510007020	868 VCO case	1
MP2	8510003710	VCO case cover (A)	1
MP3	8510003720	VCO case cover (B)	1
MP4	8510003690	VCO ground plate	1
MP5	8810009440	Setscrew C M2 x 8 NI	2
MP8	8810002100	Screw FH M2.6 x 4	12

**[VCO-B BOARD]**

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510010600	637 VCO case (A)	1

**[MAIN UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
F1	5210000220	Fuse FGMB 125 V 3 A	1
F2	6510018320	Fuse holder F09P	2
MP1	8930011820	455 filter holder	1
MP2	8510001080	Shield case (A)	1
MP3	8510010200	1768 B-shield cover	1
MP4	8410001920	1428 MAIN heatsink	1
MP5	8930040720	1768 B-clip	1
MP7	8930035230	1546 TR-A clip	1
MP10	8510001080	Shield case (A)	1
MP11	8510010200	1768 B-shield cover	1
MP14	8510000210	194 shield plate	1
MP16	8950004610	Wire hook S-5	1

**[MIX UNIT]**

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
MP1	8510010170	1768 A-shield case	2
MP3	8510000881	194 VCO case -1	1
MP4	8510010220	1768 D-shield cover	1

**[CHASSIS PARTS]**

REF. NO.	ORDER NO.	DESCRIPTION	QTY.
J1	6510004910	Connector NR-DS-E 01 [VHF/UHF ANT]	1
J2	6510004880	Connector MR-DS-E 01 [HF 50Ω ANT]	1
W5	8900006710	Cable OPC-648	1
W6	8900006850	Cable OPC-659	1
W7	8900006720	Cable OPC-649	1
W8	8900006860	Cable OPC-660	1
WS2	8600035510	Cable P01•J03CH (incl. CHASSIS J3)	1
MP1	8010016540	1768 chassis	1
MP2	8510010400	1768 C-shield plate	1
MP5	8510010390	1768 B-shield plate	1
MP8	8930040710	1768 A-clip	1
MP9	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	2
MP10	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	2
MP11	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	10
MP12	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	8
MP13	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	6
MP14	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	4
MP15	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	6
MP16	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	5
MP17	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	6
MP20	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	4
MP22	8810003460	Hex bolt M5 x 18 SUS	1
MP24	8830000210	Nut M5 NI BS	1
MP25	8830000360	Wing nut M5 NI	1
MP26	8850000150	Flat washer M5 NI BS	2
MP27	8850000440	Spring washer M5 NI	1
MP28	8810009060	Screw FH M3 x 8 ZK	4
MP31	8210013780	Panel (C)	1
MP32	8810008660	Screw PH B0 M3 x 8 NI-ZU (BT)	4
MP33	8810009040	Setscrew H M2.6 x 10 NI	2
MP34	89500004620	Wire hook SR-10	3
MP35	8950004610	Wire hook S-5	3
MP36	8930012740	Sponge (BF)	1
MP37	8930001180	Ground spring	1
MP38	8930024440	Sheet (AF)	2
MP39	8930027890	946 ground spring	1
MP40	8930026470	Sponge (CZ)	1

## SECTION 8 SEMI-CONDUCTOR INFORMATION

### • TRANSISTORS AND FET'S

2SA1576 R (Symbol: FR)	2SA1586 GR (Symbol: SG)	2SA1736 (Symbol: LD)	2SC2873 Y (Symbol: MY)	2SC3650 (Symbol: CF)
2SC3661 (Symbol: FY)	2SC4081 R (Symbol: BR)	2SC4081 S (Symbol: BS)	2SC4835 (Symbol: 3M)	2SJ144 GR (Symbol: VG)
2SK1069 (Symbol: FJ)	2SK1577 2 (Symbol: P2)	2SK2036 (Symbol: KJ)	2SK210 GR (Symbol: YG)	2SK2171 4 (Symbol: KM)
2SK536 (Symbol: BJ)	2SK882 GR (Symbol: TG)	3SK131 LA (Symbol: V12)	3SK228XR (Symbol: XR)	DTA114EU (Symbol: 14)
DTA144EU (Symbol: 16)	DTC114EU (Symbol: 24)	DTC144EU (Symbol: 26)	FMS2A (Symbol: S2)	FMW2 (Symbol: W2)
RN2424 (Symbol: RD)	RN2427 (Symbol: RG)	XN1114 (Symbol: 7Q)	XN4601 (Symbol: 5C)	XP1114 (Symbol: 7Q)
XP1213 (Symbol: 9L)	XP4311 (Symbol: 7X)	XP4601 (Symbol: 5C)		

• DIODES

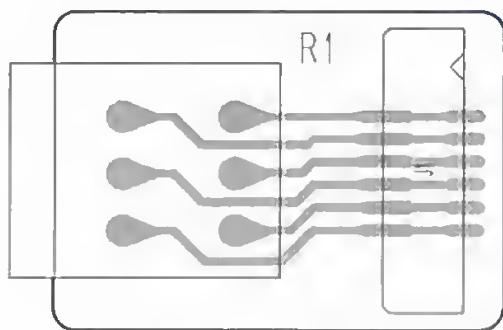
1SS272 (Symbol: A1)	1SS375 (Symbol: FH)	1SV237 (Symbol: BB)	1SV271 (Symbol: TG)	1T362A (No symbol)
				
DAN222 (Symbol: N)	HN2V02H (Symbol: 2V02H)	MA862 (Symbol: M1I)	ND433G E1 (Symbol: 433)	RD10M B2 (Symbol: 102)
				
MA8160H (Symbol: 16^)	MA338 (Symbol: 6H)	1SV217 (Symbol: T6)	1SS355 (Symbol: A)	1SR154-400 (Symbol: 14)
				
MA77 (Symbol: 4B)	MA8150M (Symbol: 15-)	MA728 (Symbol: 2A)	MA363B (Symbol: 6D)	
				

## SECTION 9 BOARD LAYOUTS

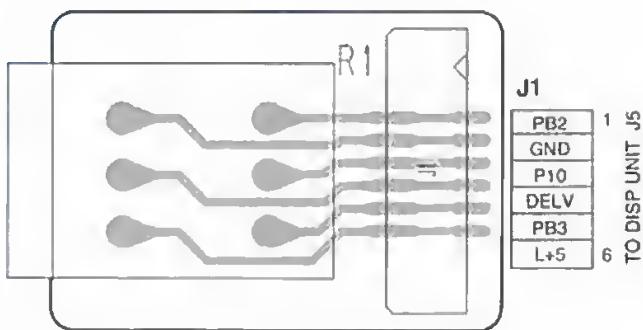
### 9-1 FRONT

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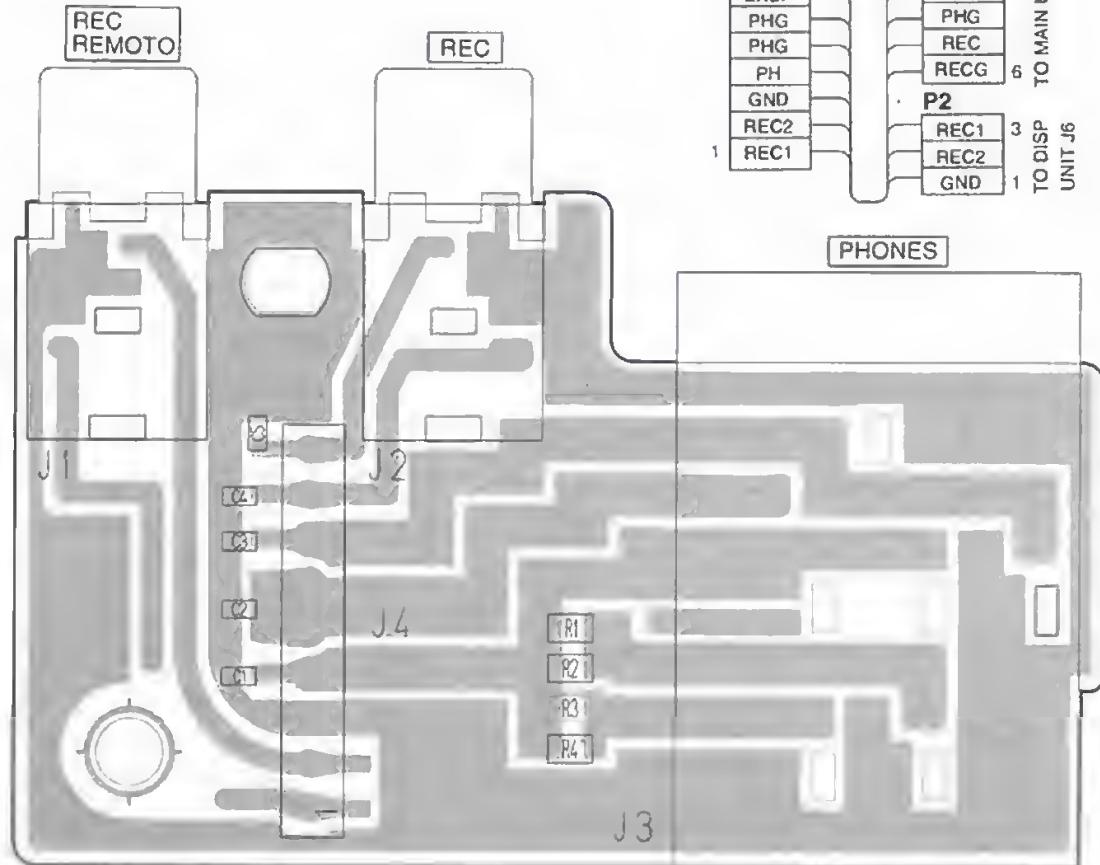
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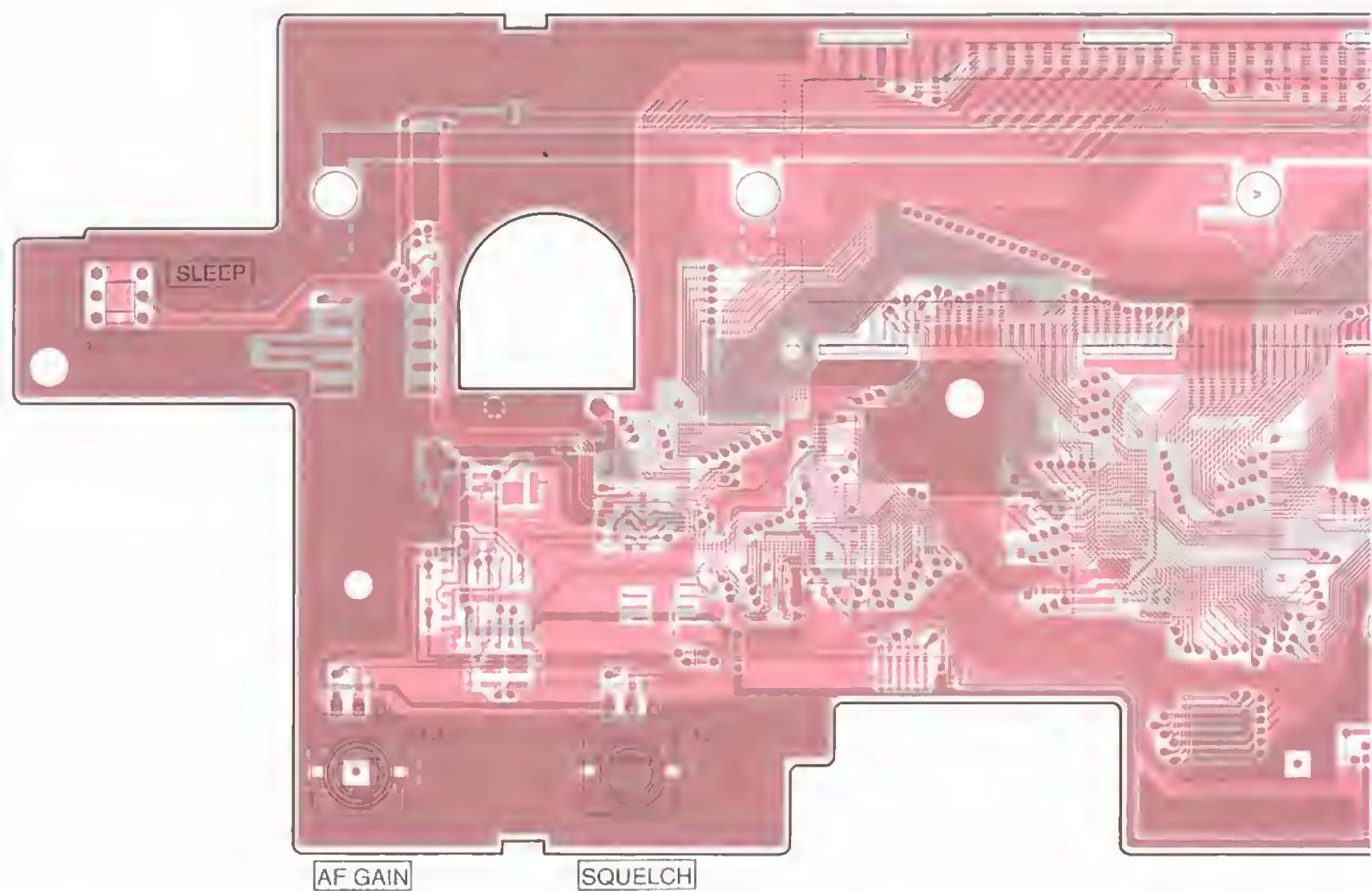
#### • VR-B BOARD



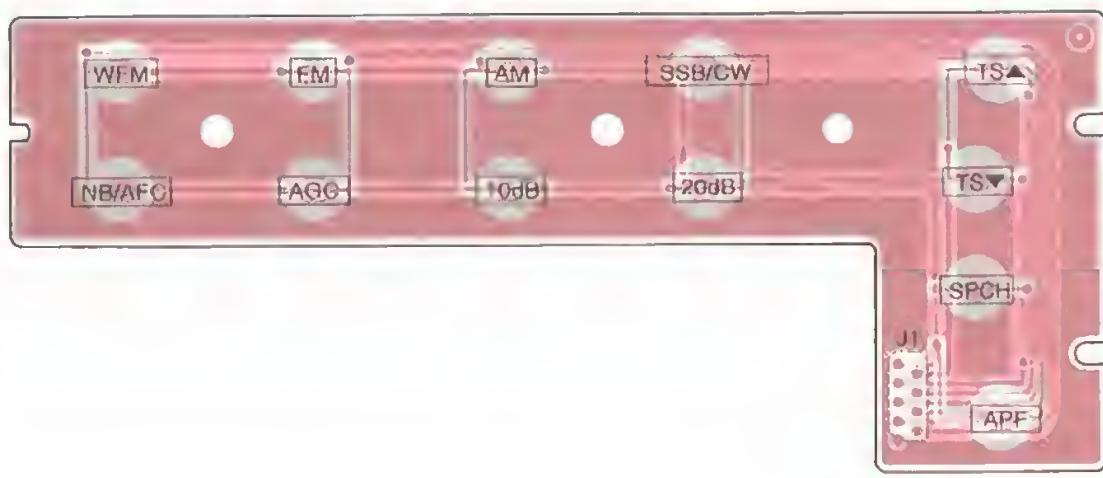
#### • JACK BOARD



• DISP UNIT



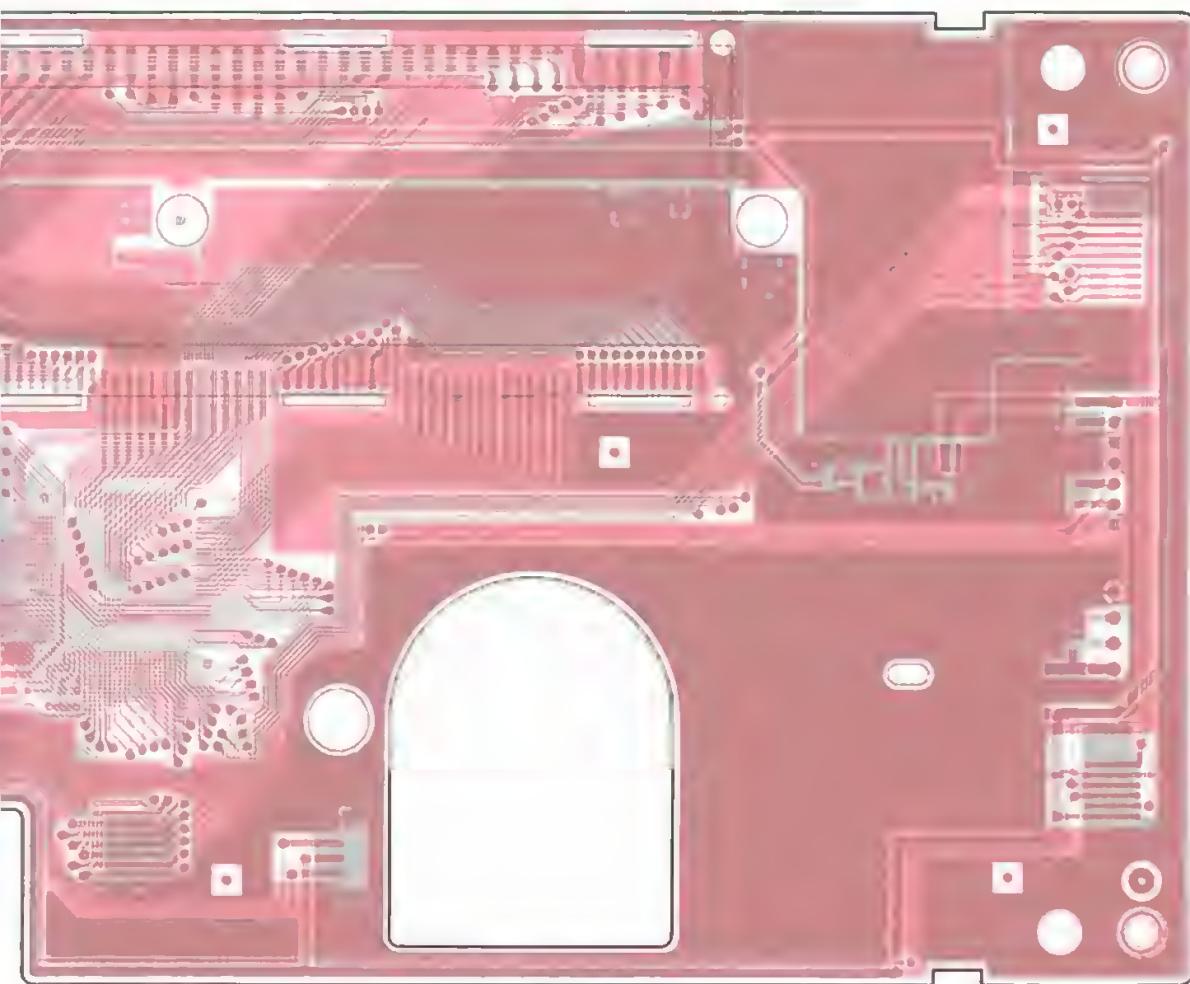
• SW-A BOARD



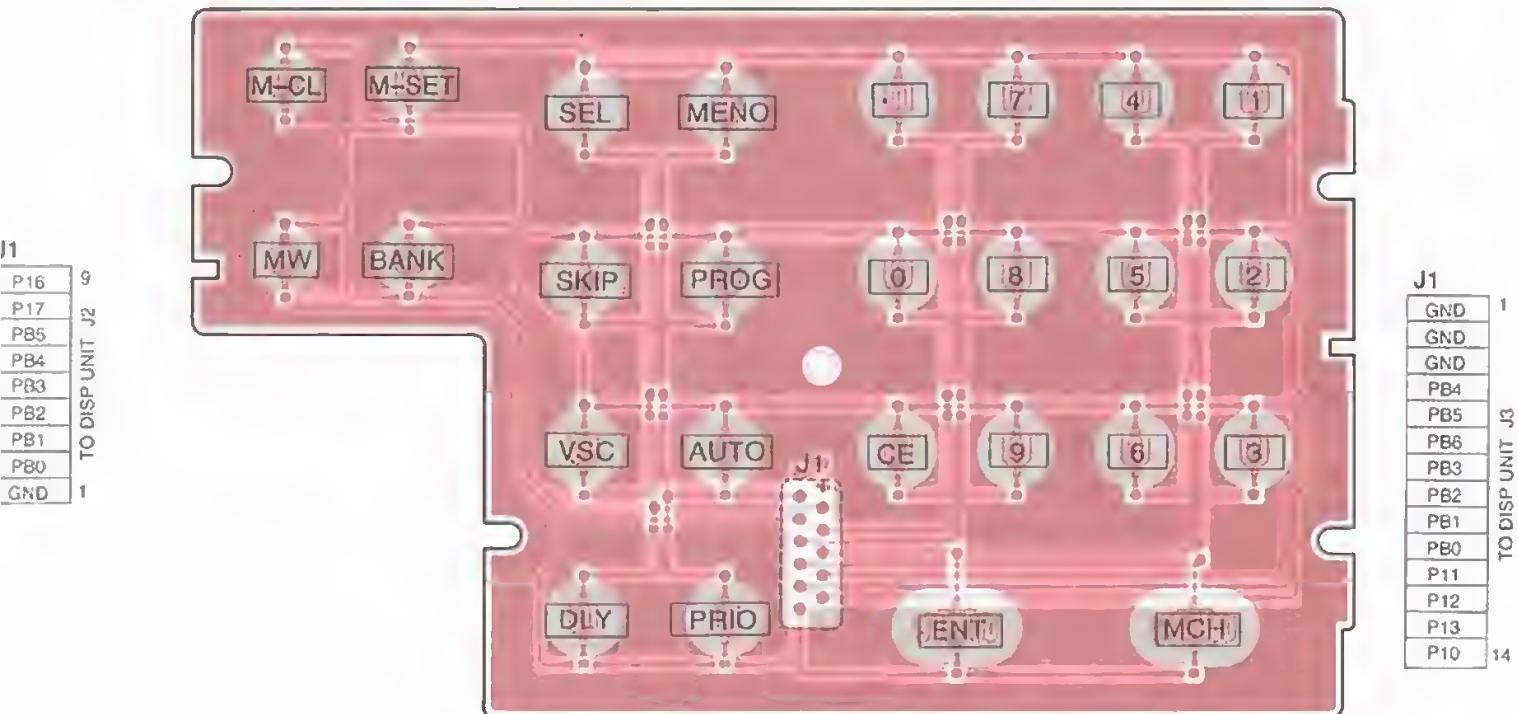
J1		
P16	9	
P17		
PB5		
PB4		
PB3		
PB2		
PB1		
PB0		
GND	1	



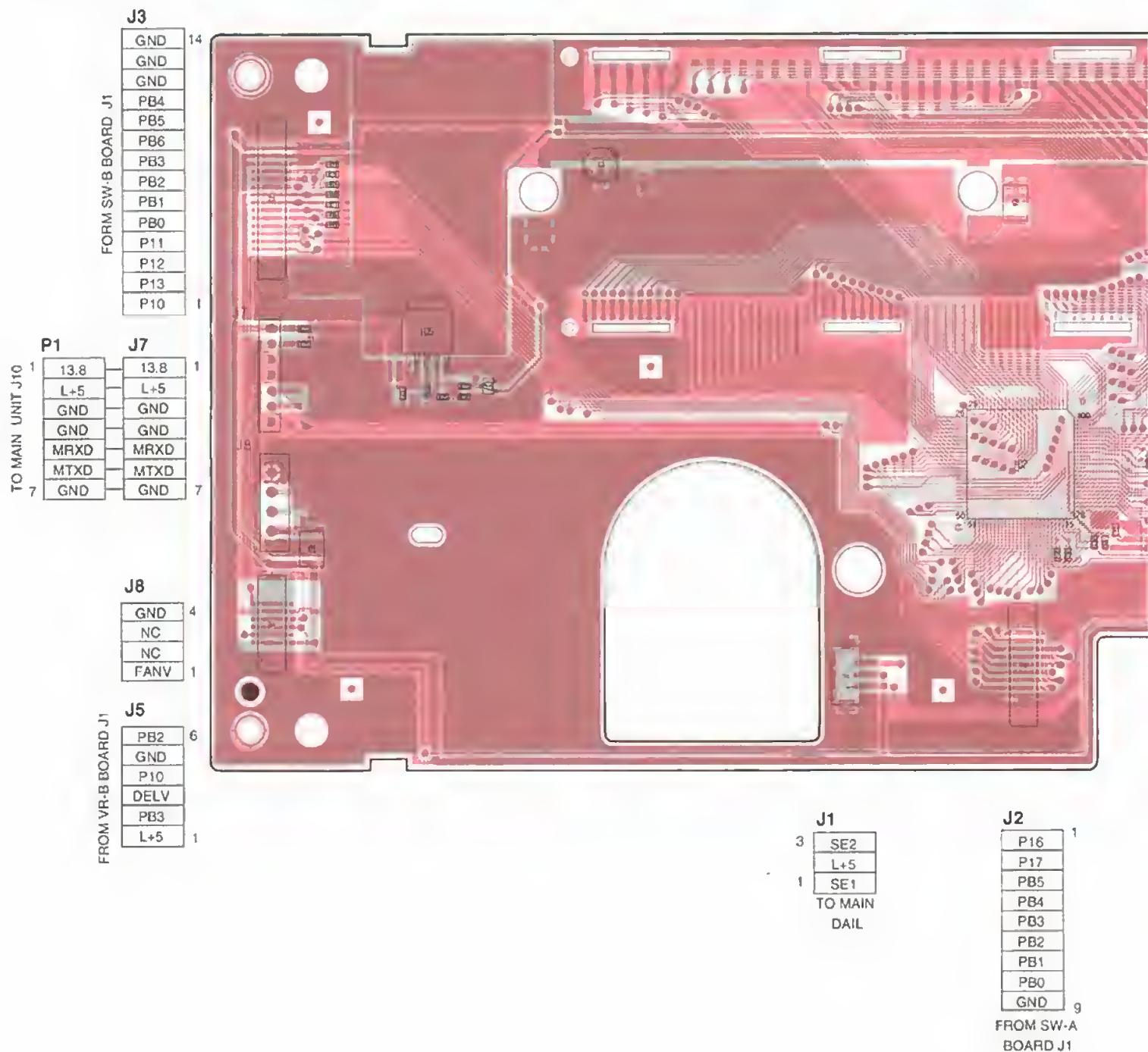
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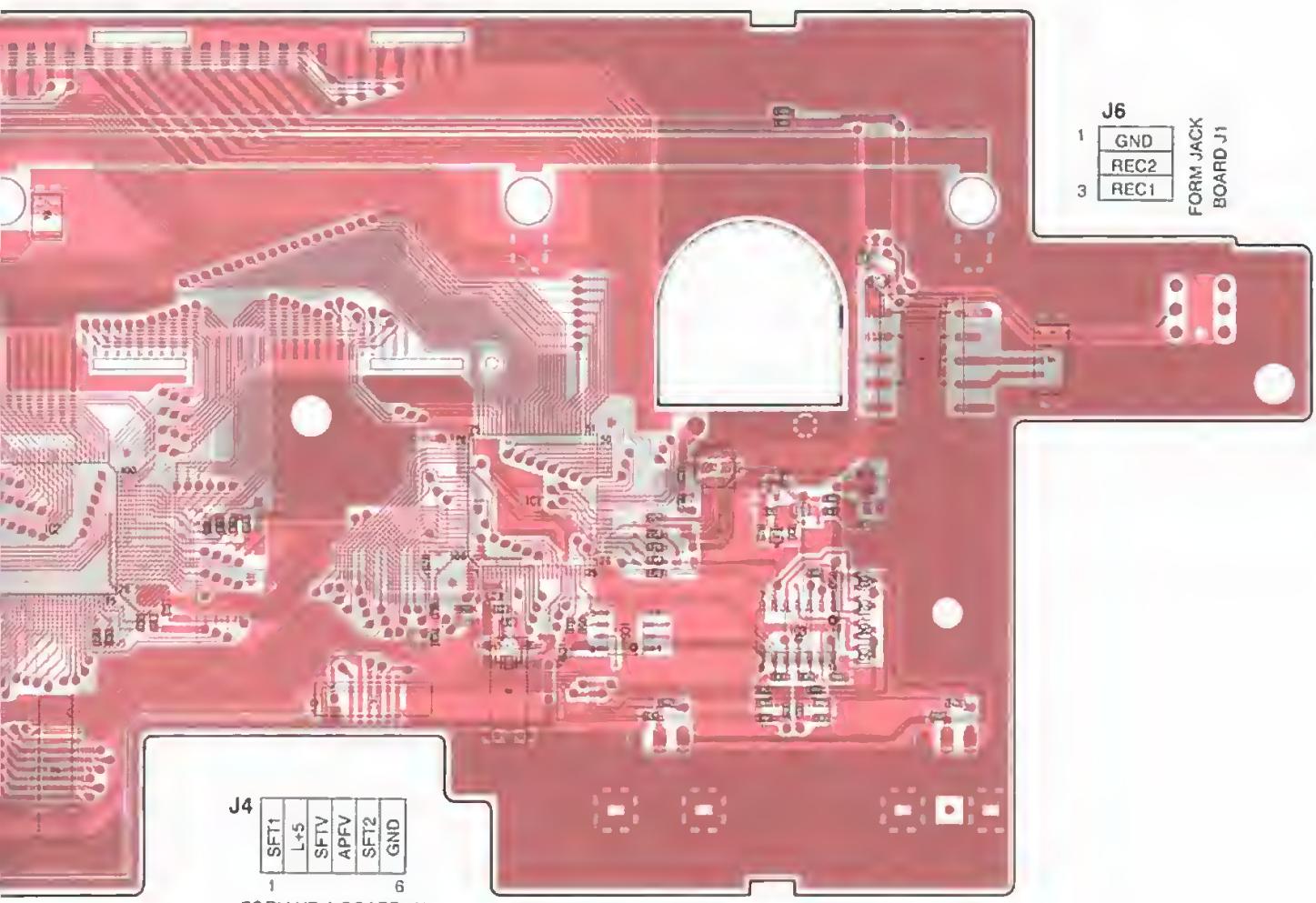


• SW-B BOARD

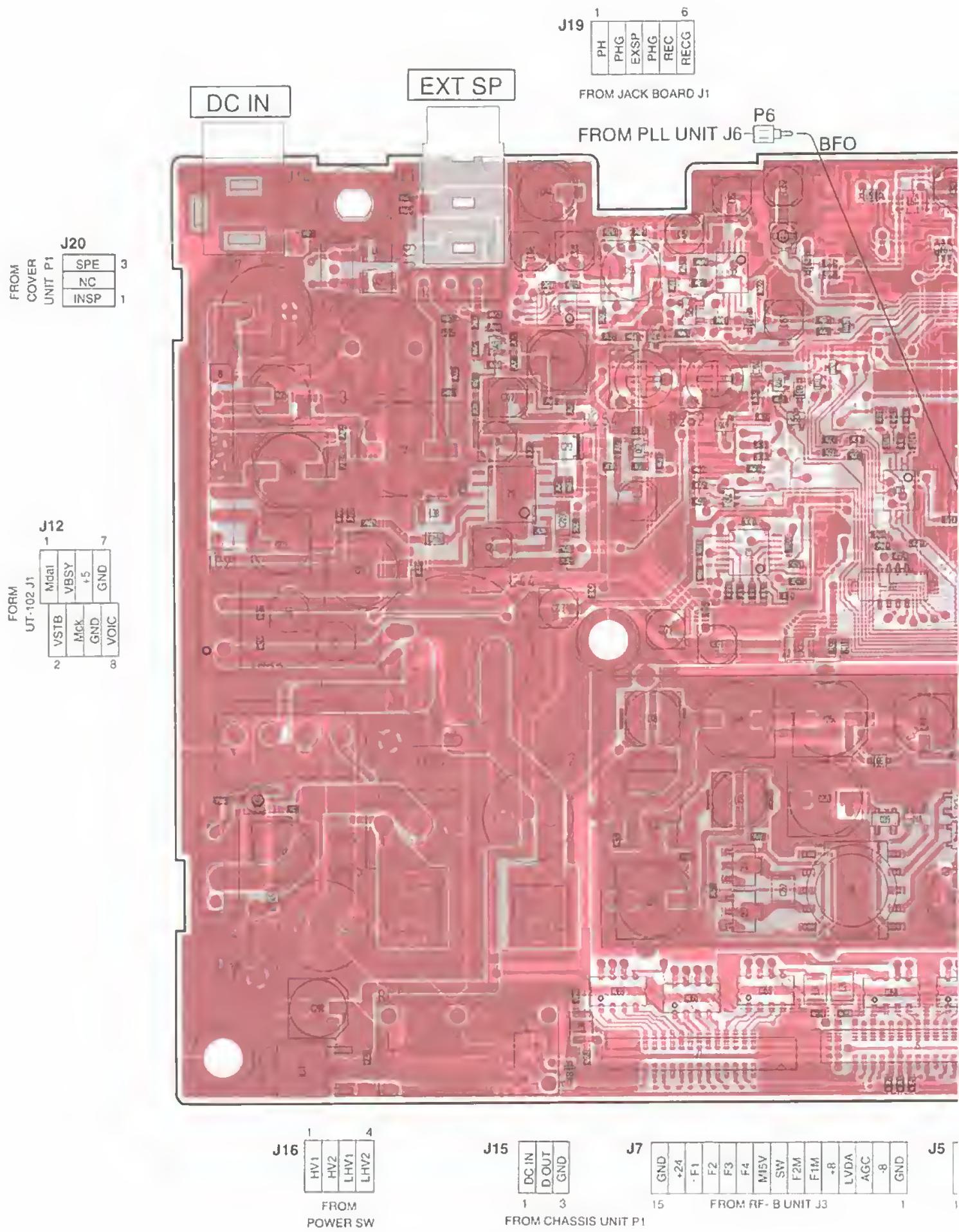


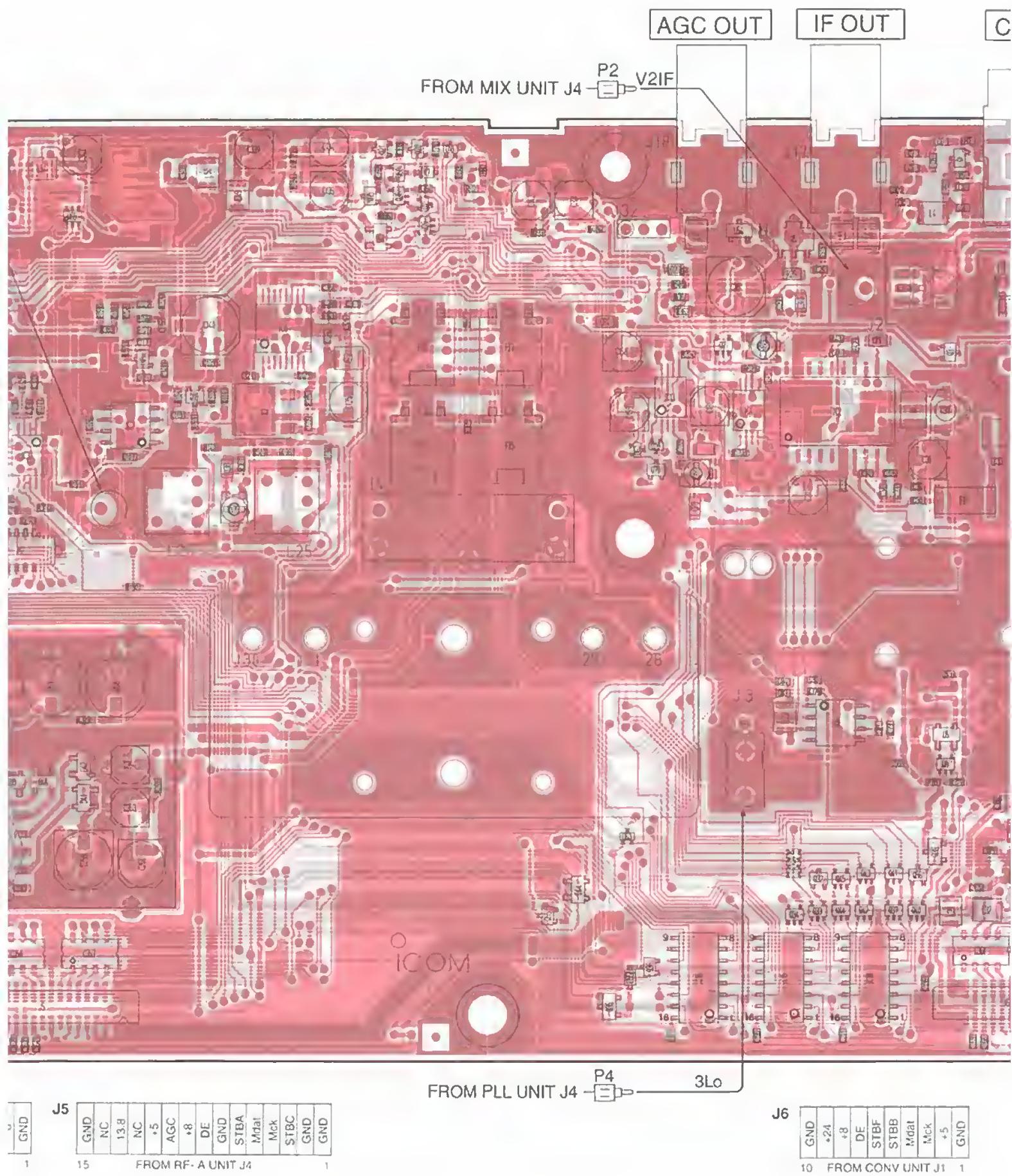
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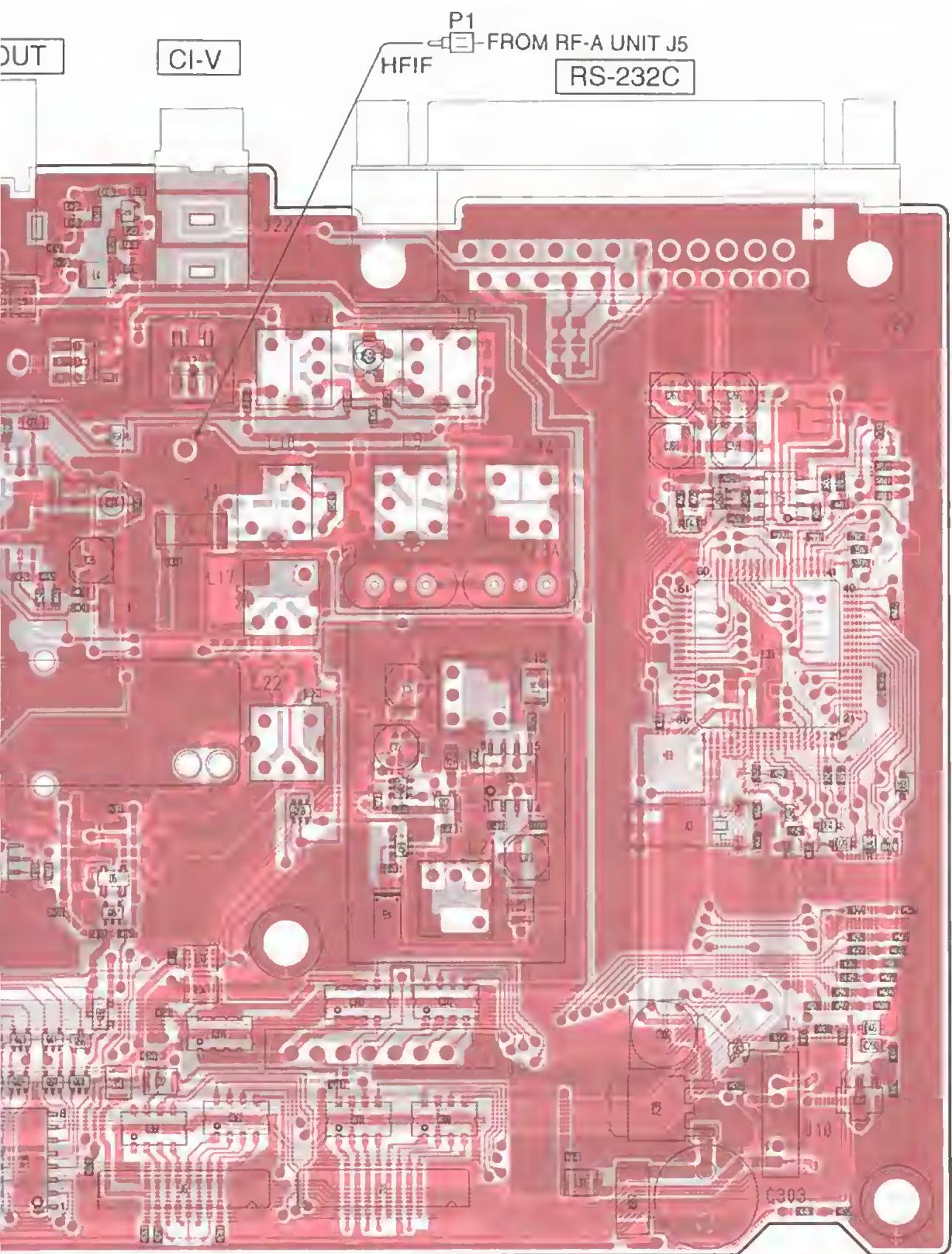


## 9-2 MAIN UNIT





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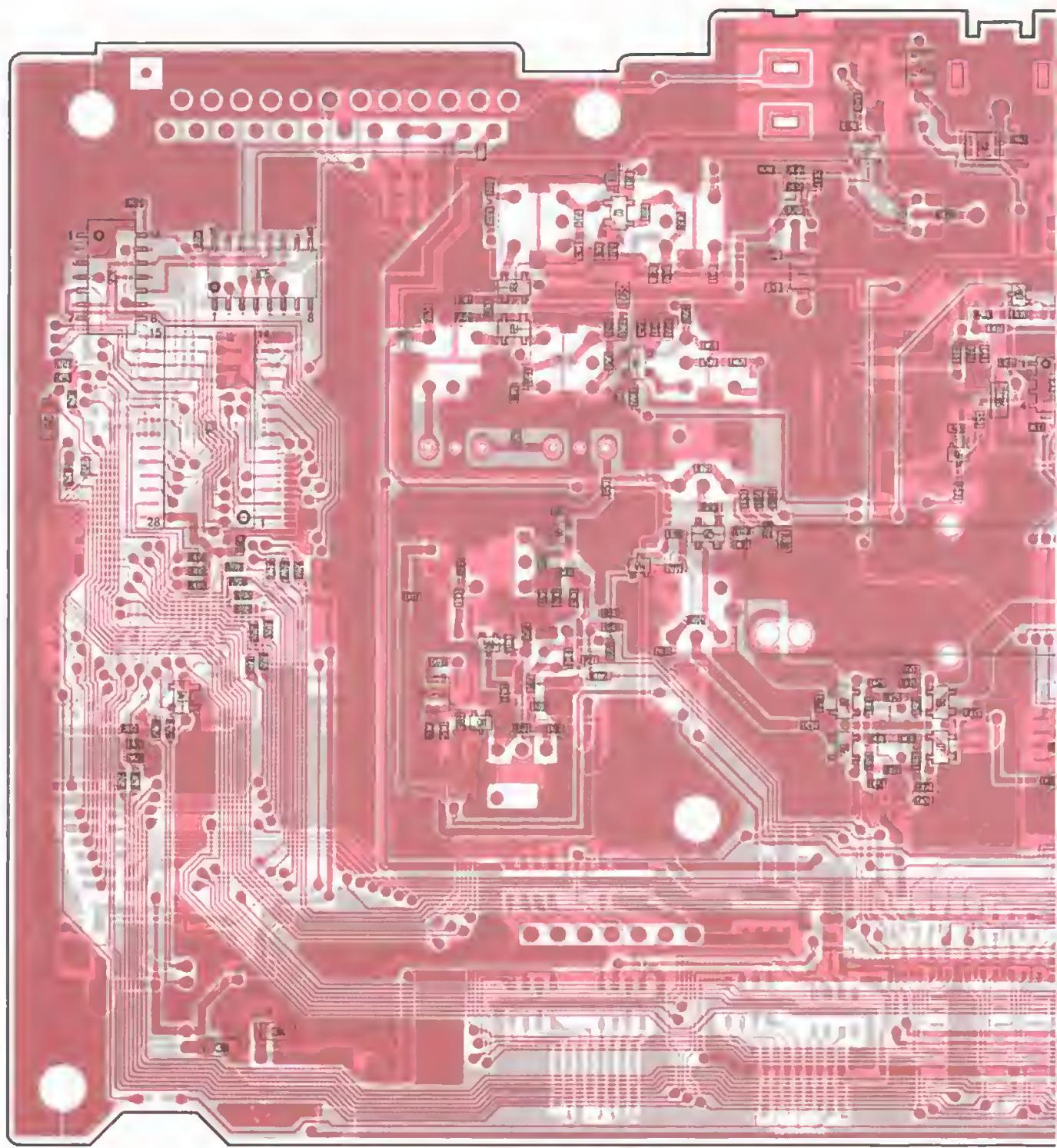


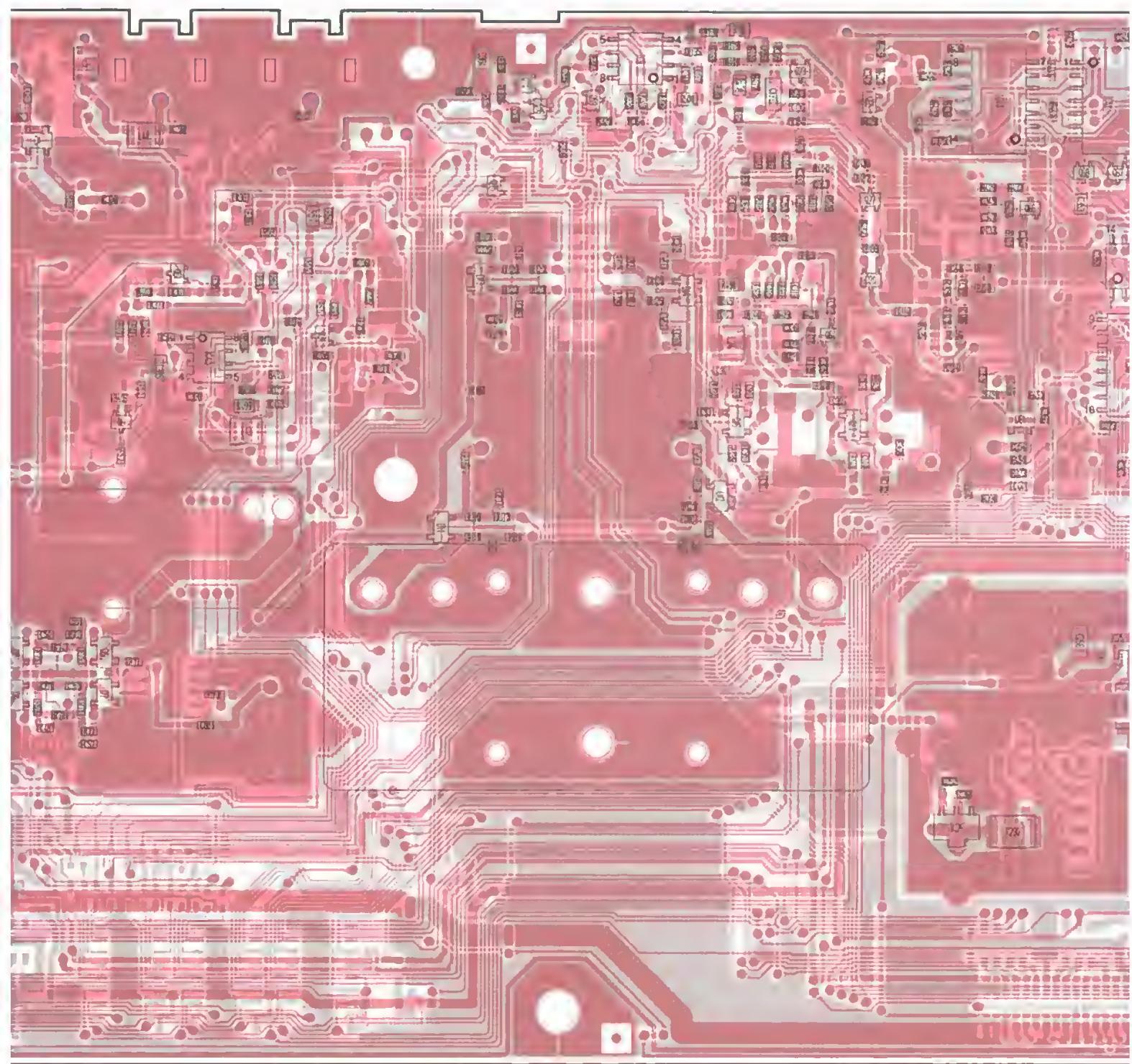
	J10
7	GND
	MTXD
	MRXD
	GND
	GND
	L+5
1	13.8

FROM DISP UNIT J7

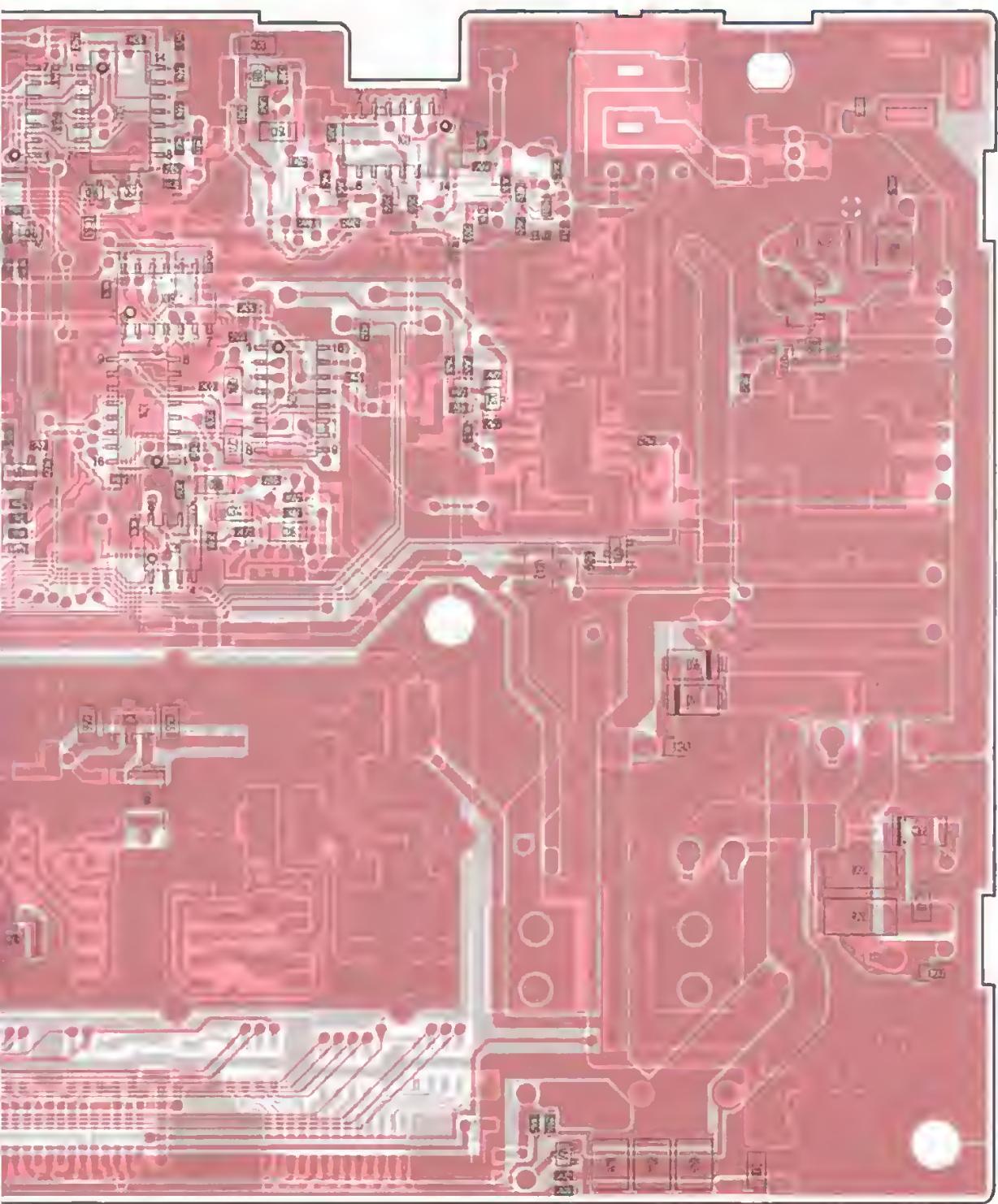
J8	10	FROM MIX UNIT J1	1
	GND	GND	GND
	-8	+8	
	F2M	F1M	F1LS
	GND	GND	
	M15V		

13.8	1
24	
LCT	
PSTB	
PDE	
Pdat	
Pck	
GND	



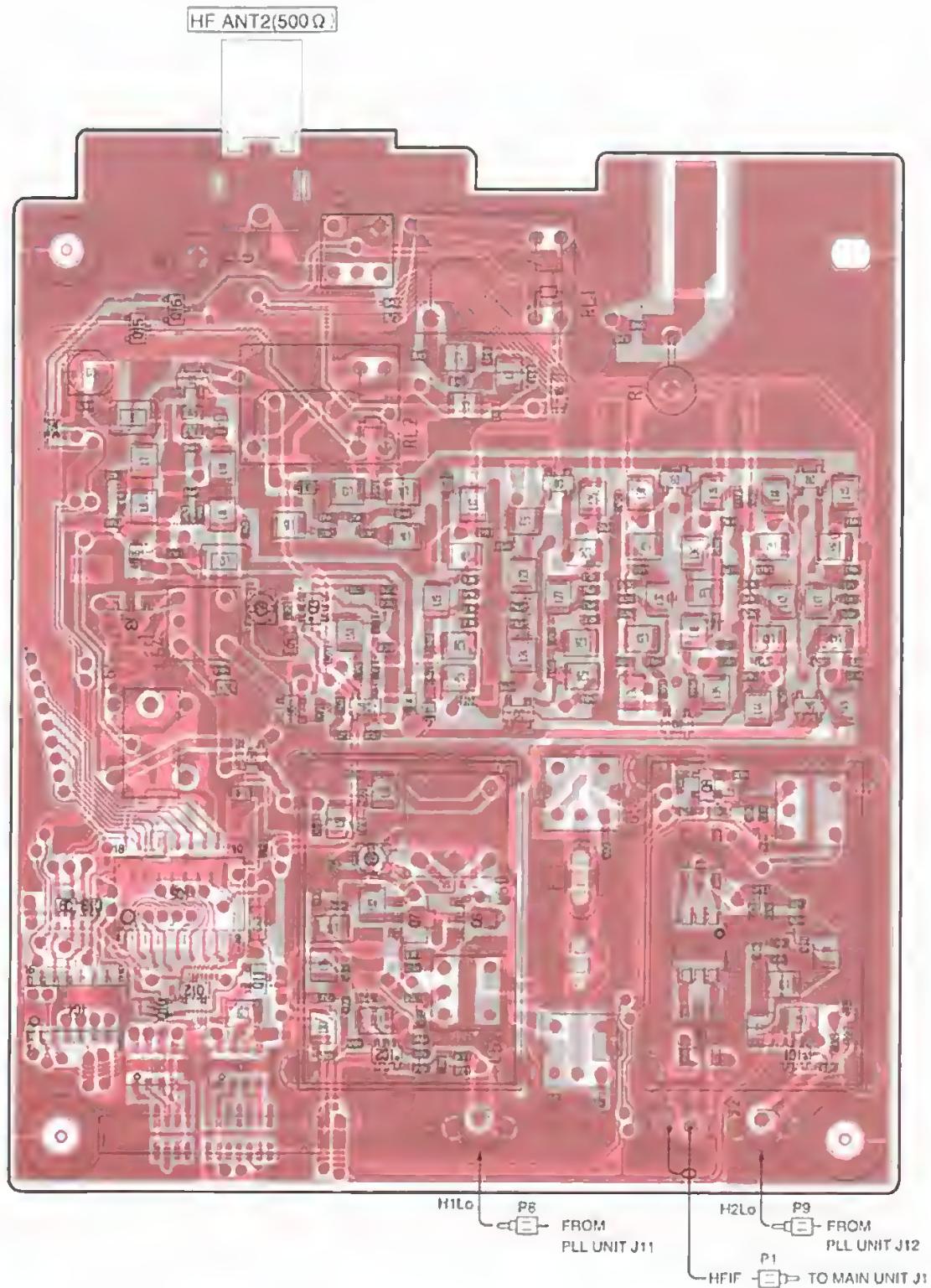


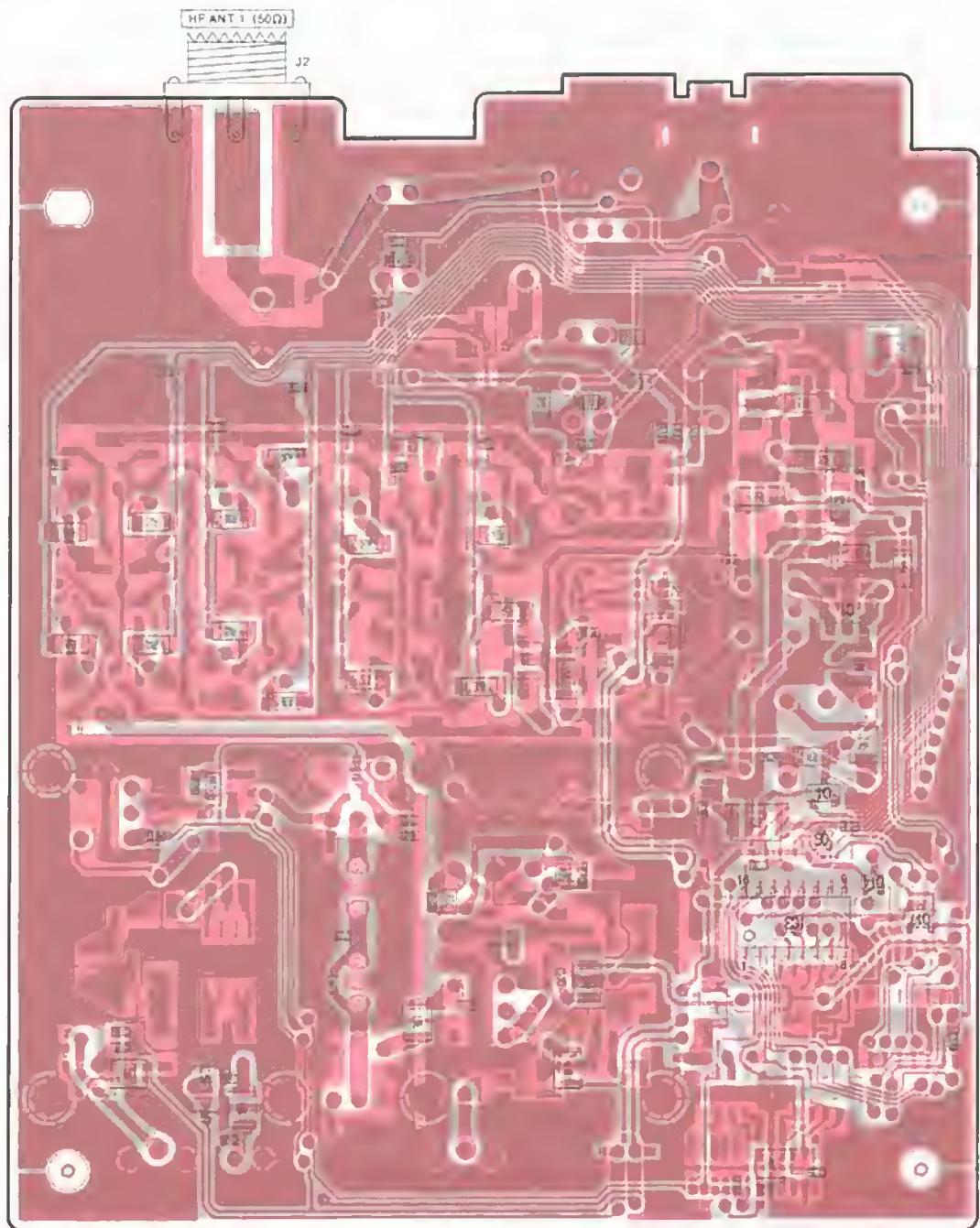
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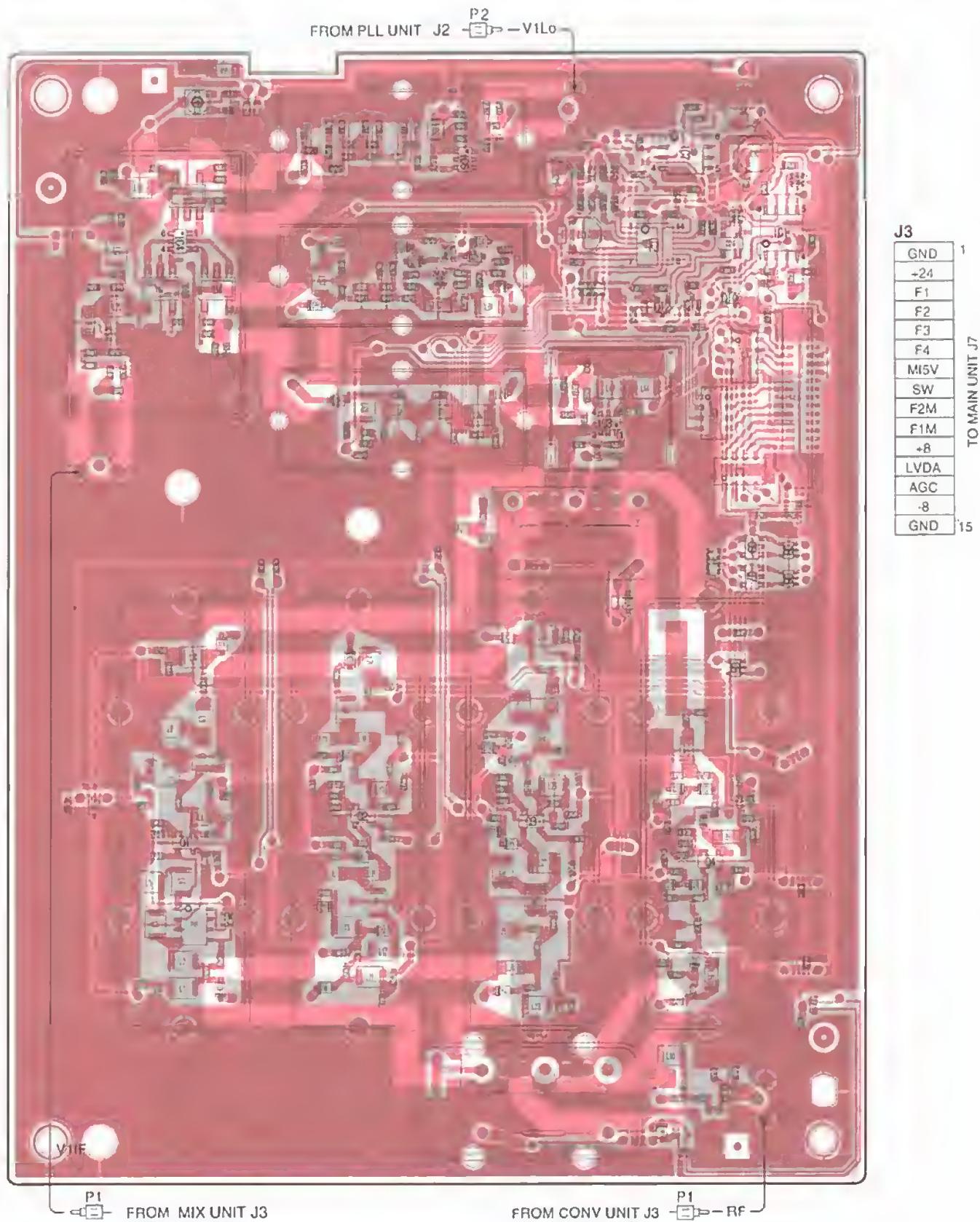
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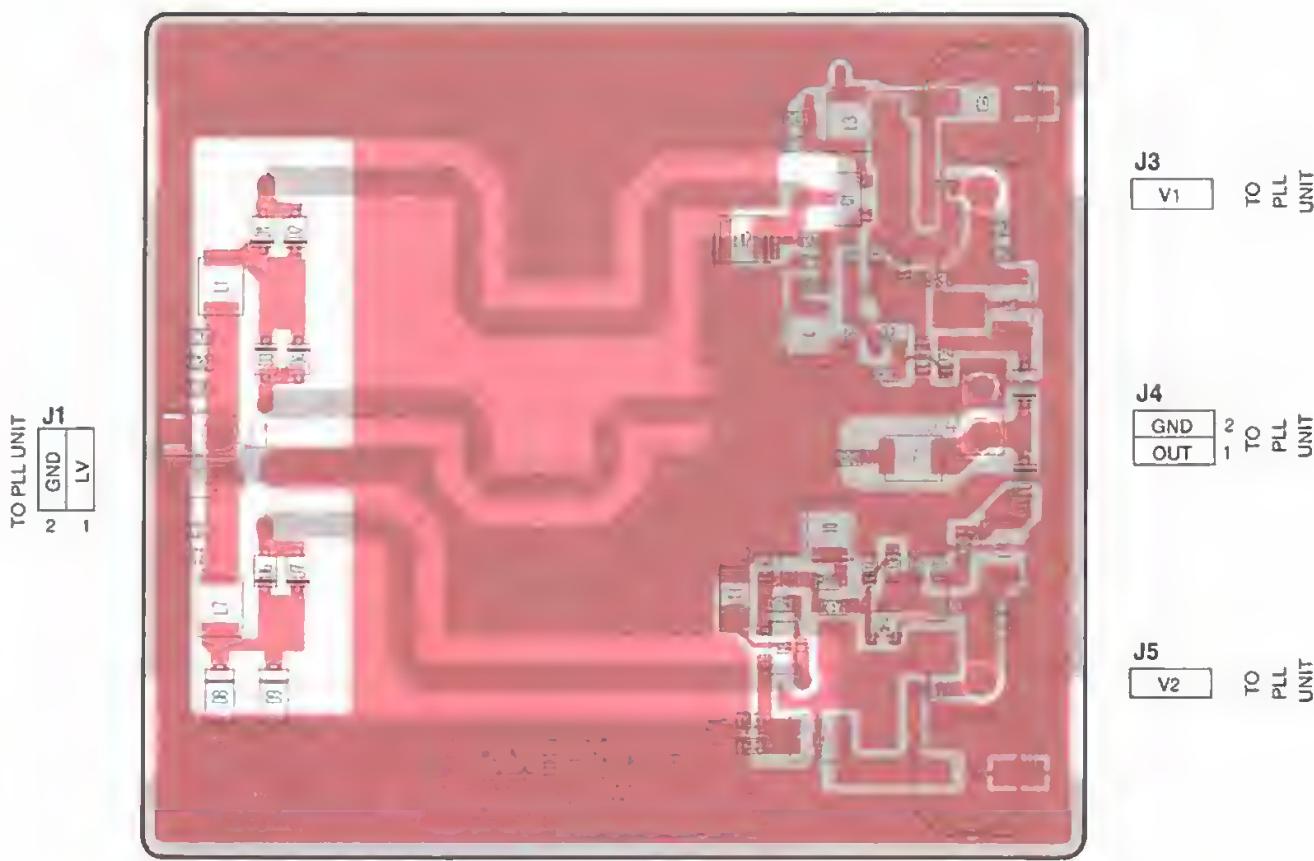


## 9-4 RF-B UNIT

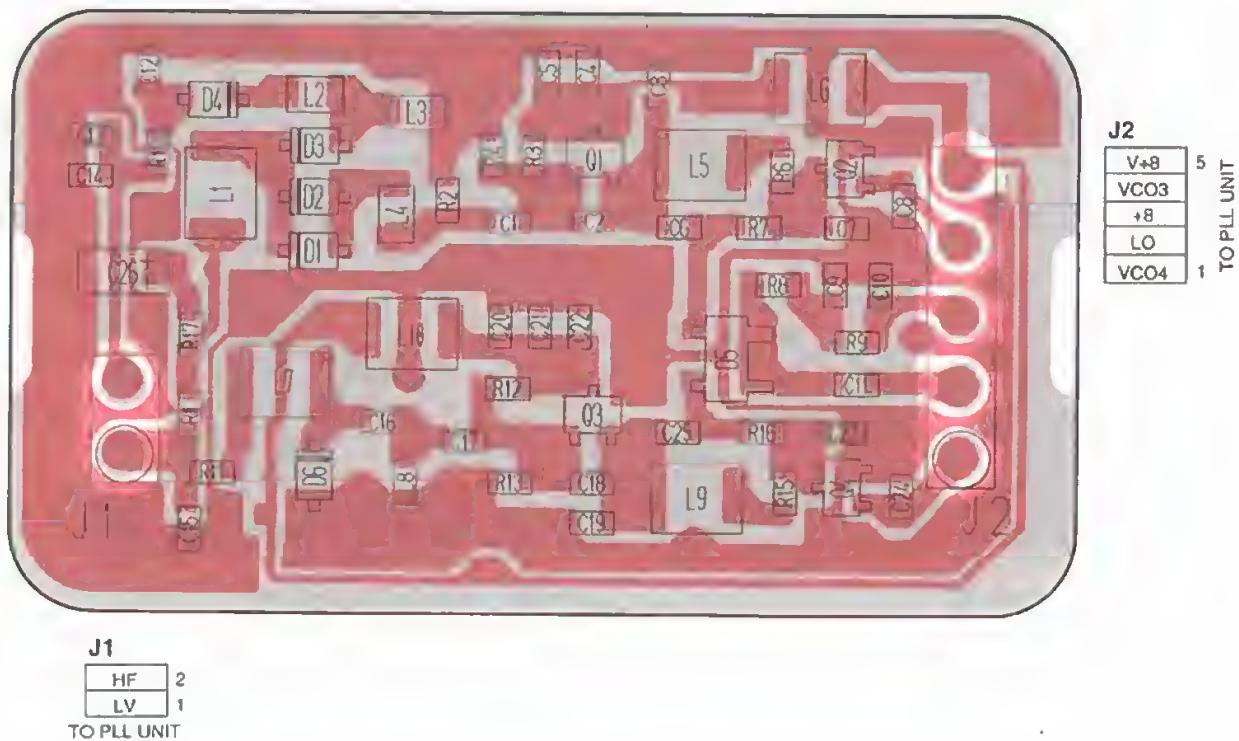


## 9-5 VCO-A AND VCO-B BOARDS

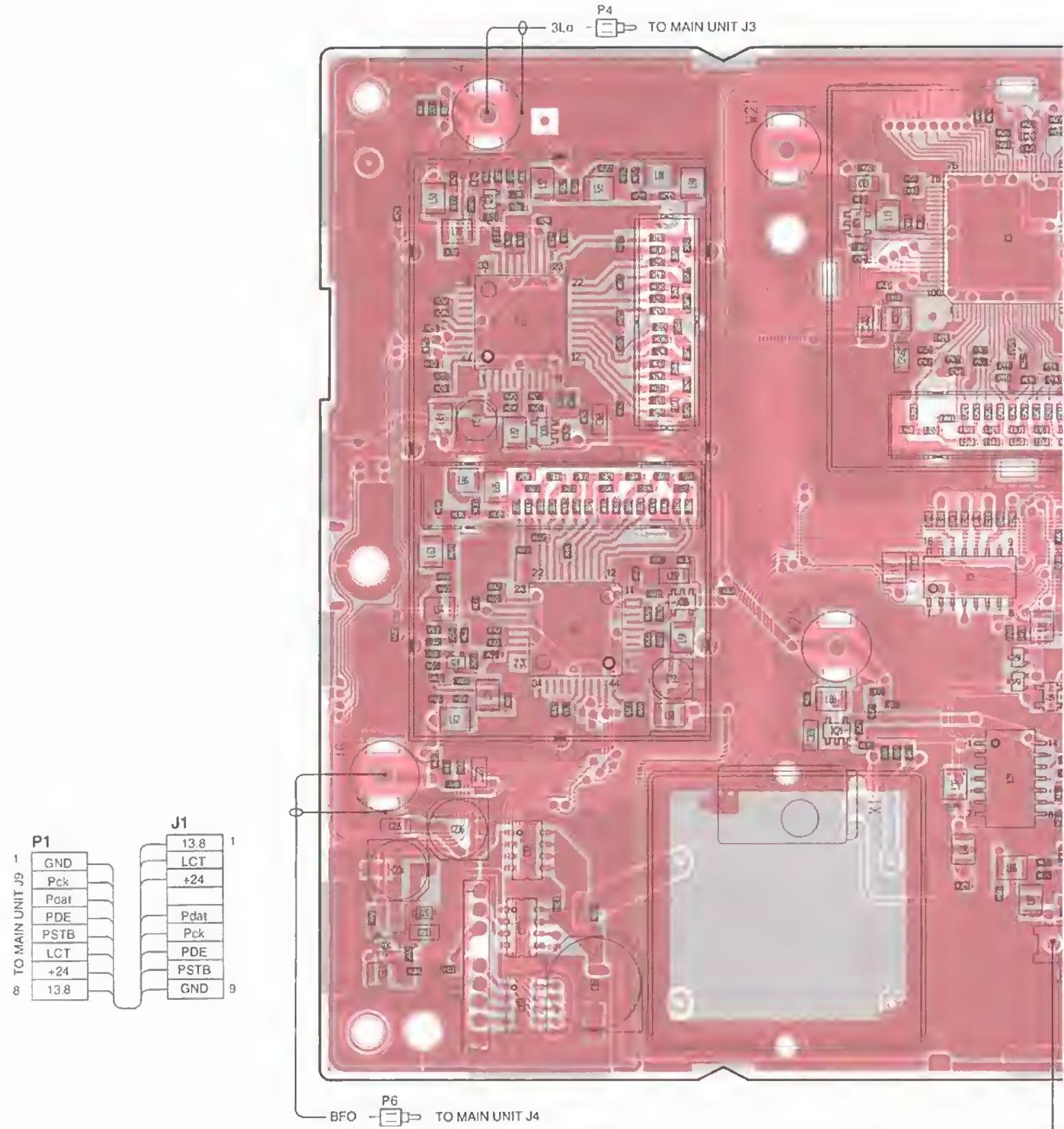
### • VCO-A BOARD

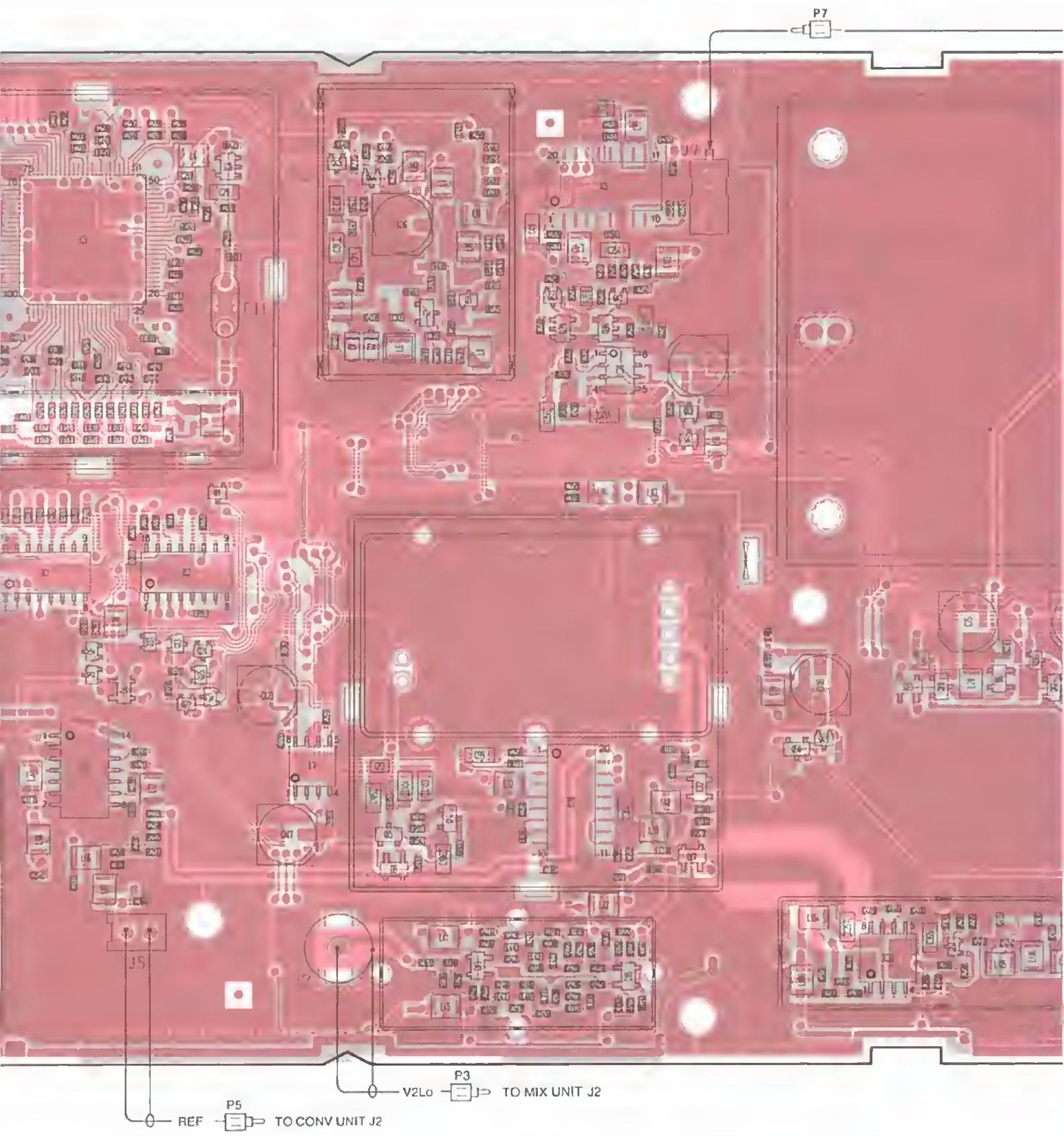


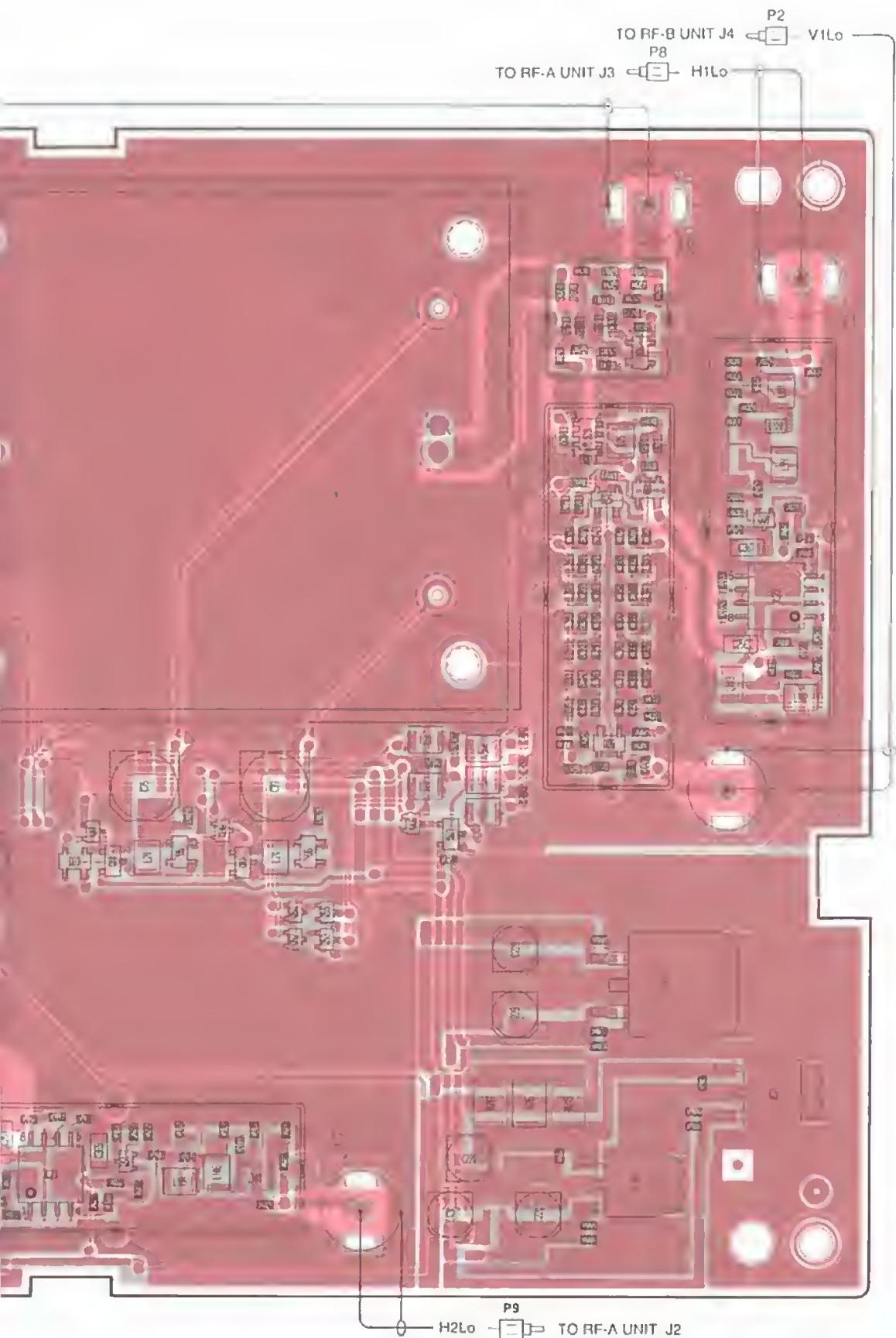
### • VCO-B BOARD



## 9-6 PLL UNIT

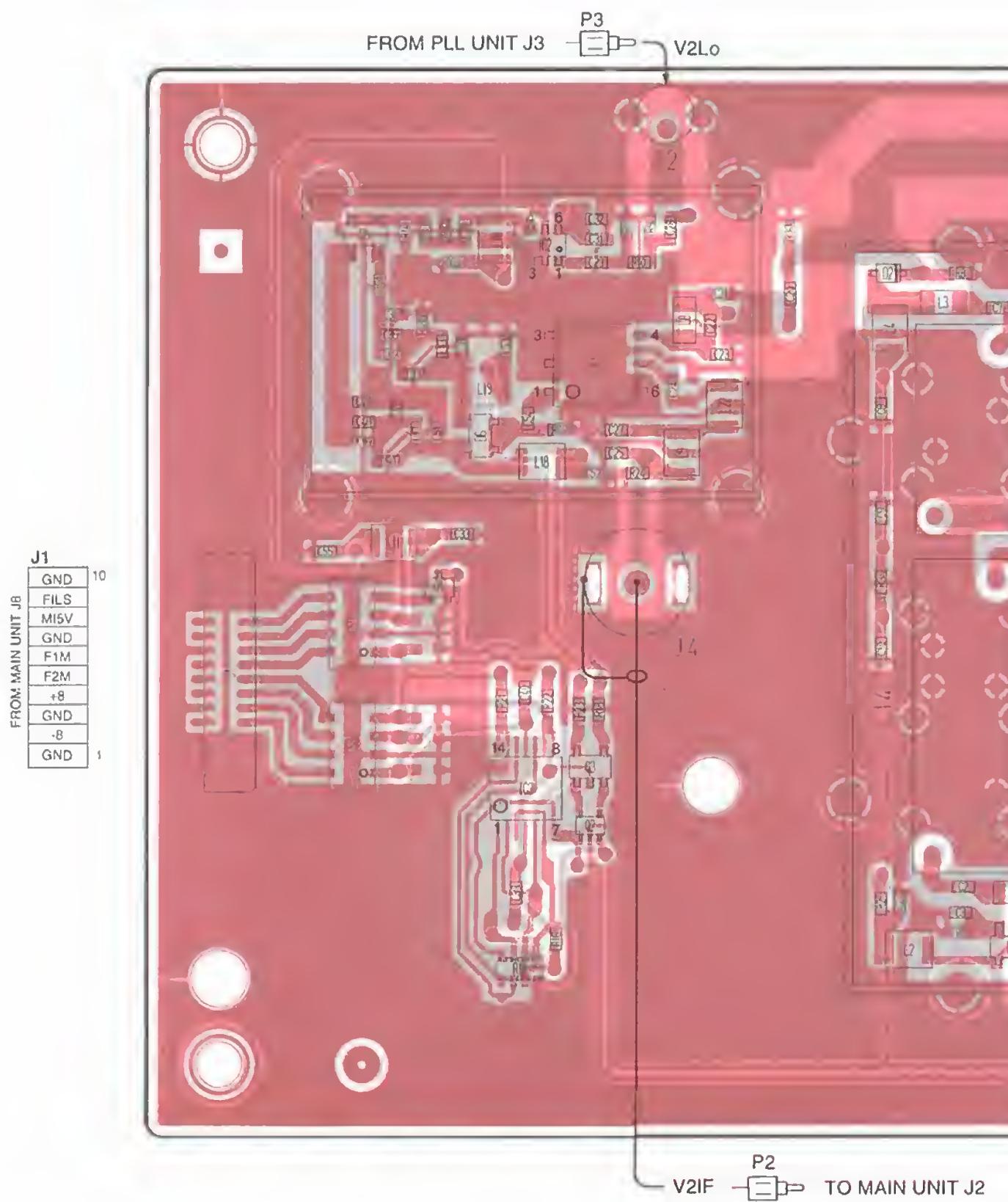




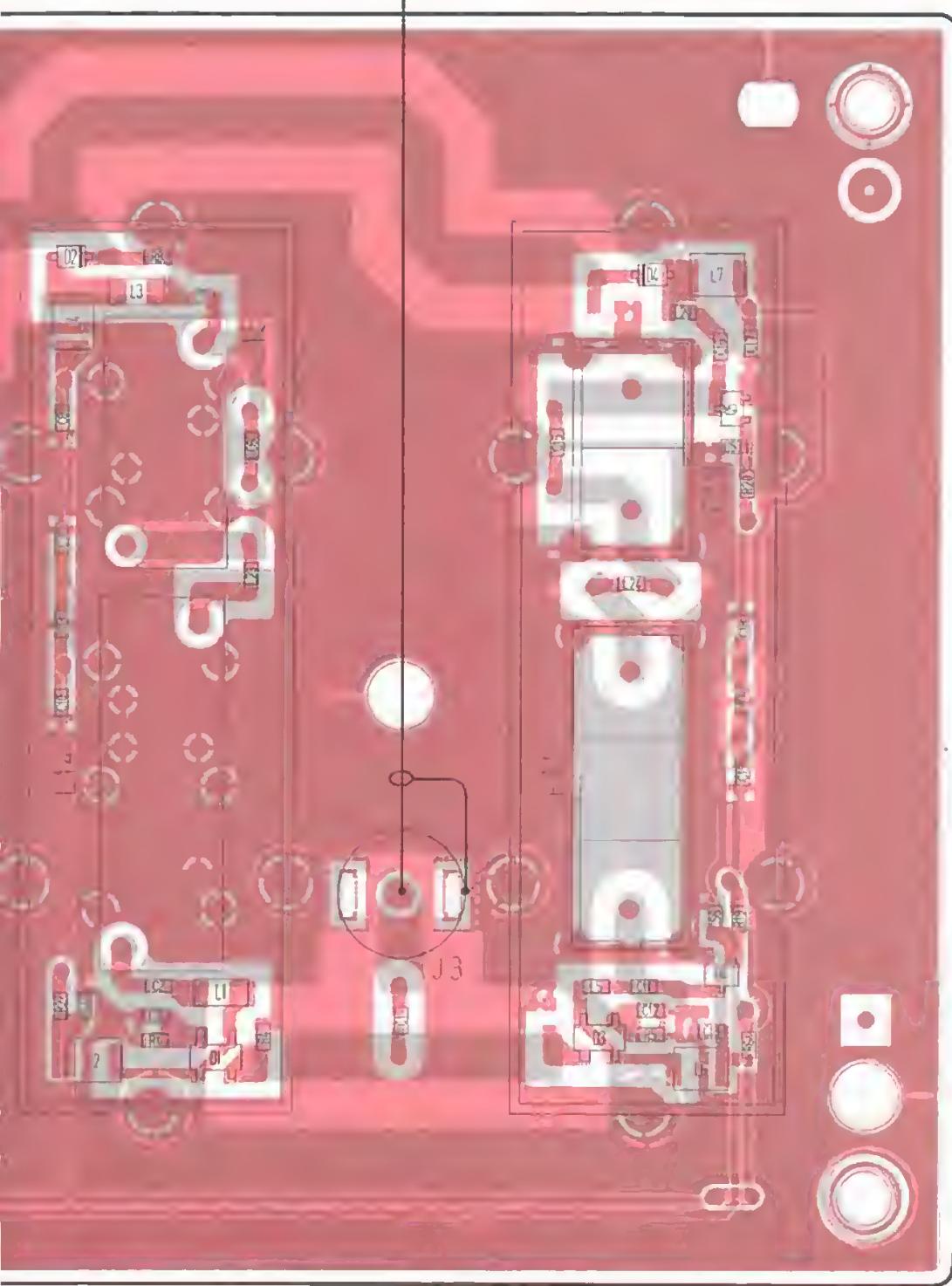


## 9-7 MIX AND CONV UNITS

### • MIX UNIT



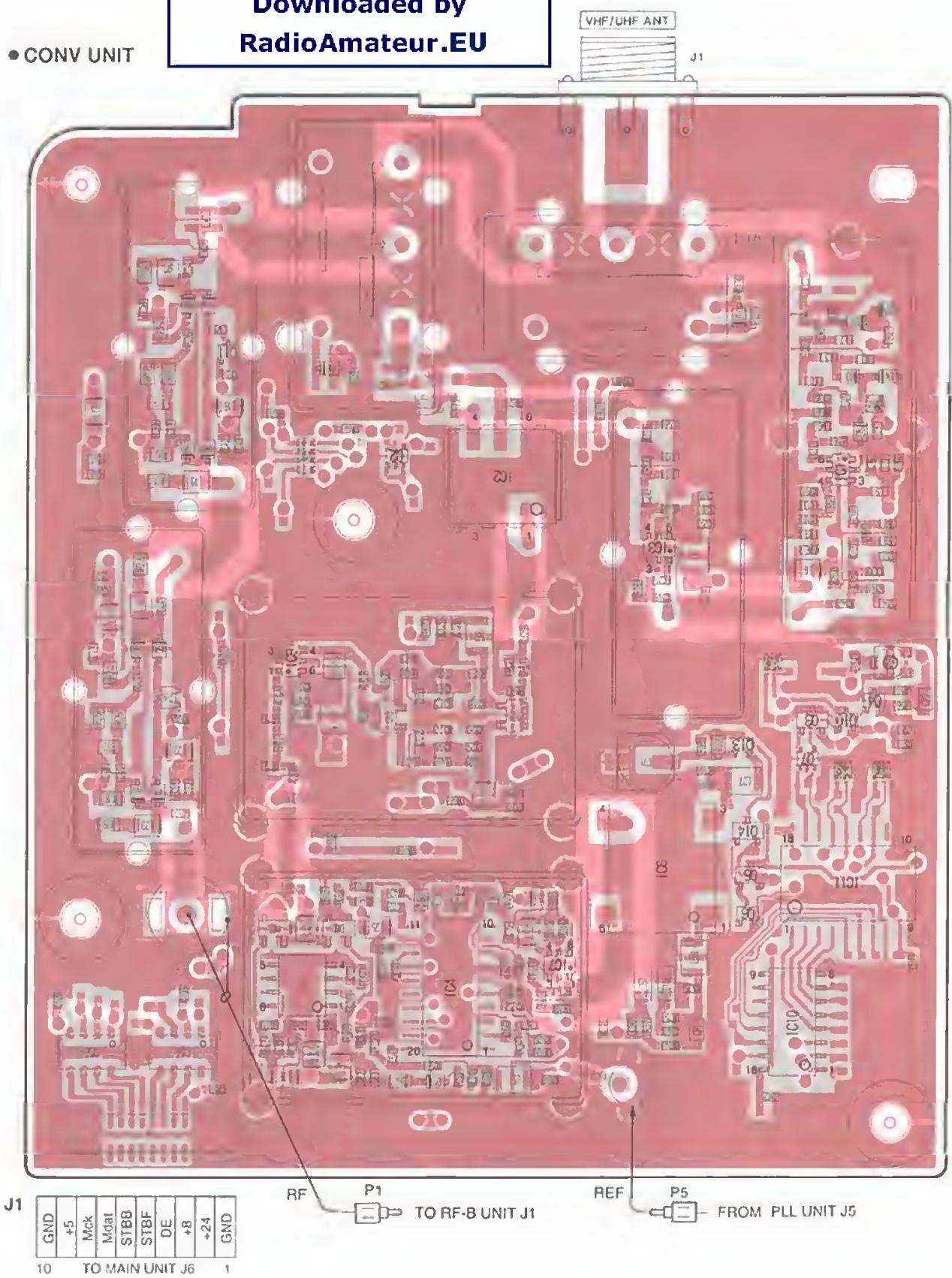
P1  
V1IF  TO RF-B UNIT J2



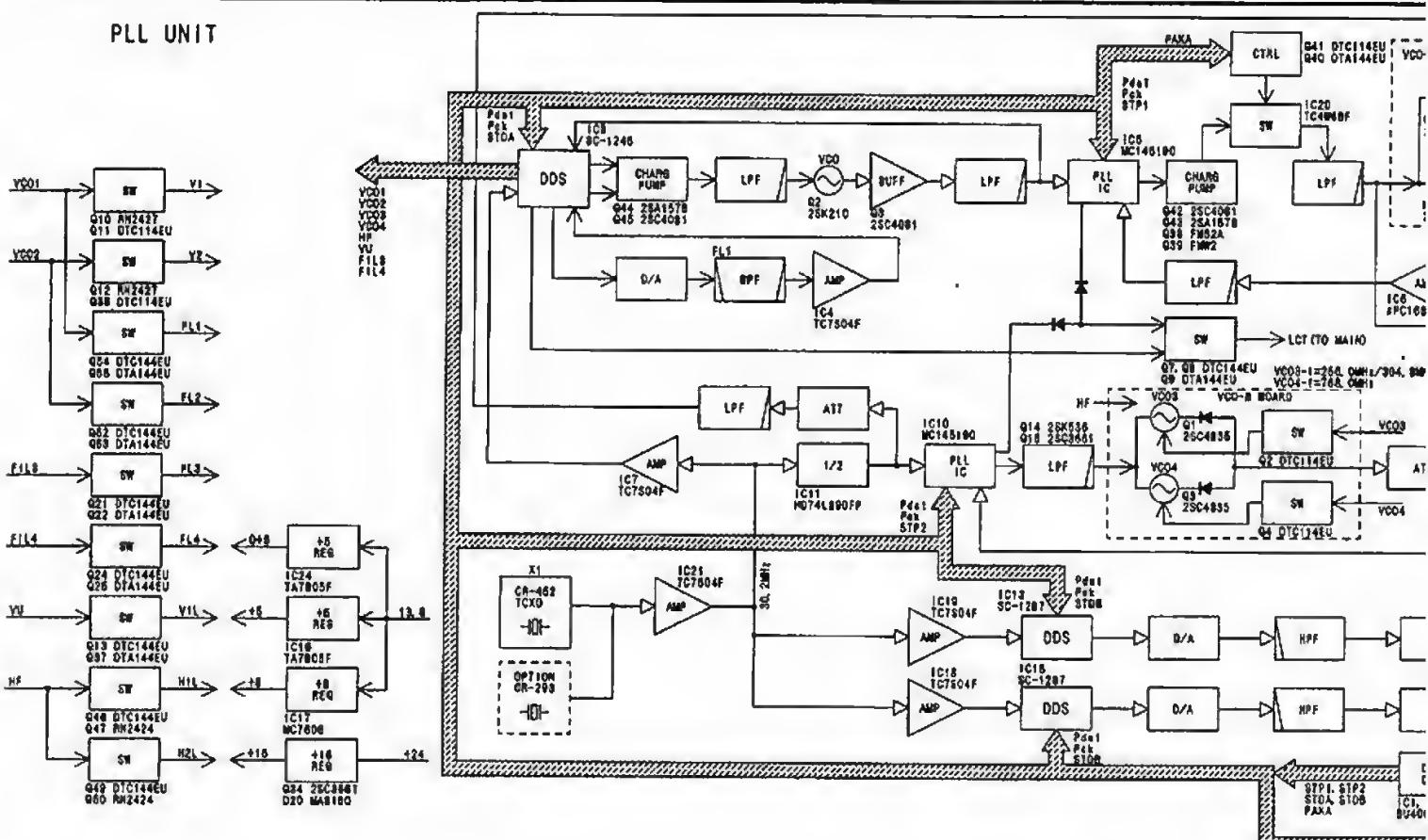
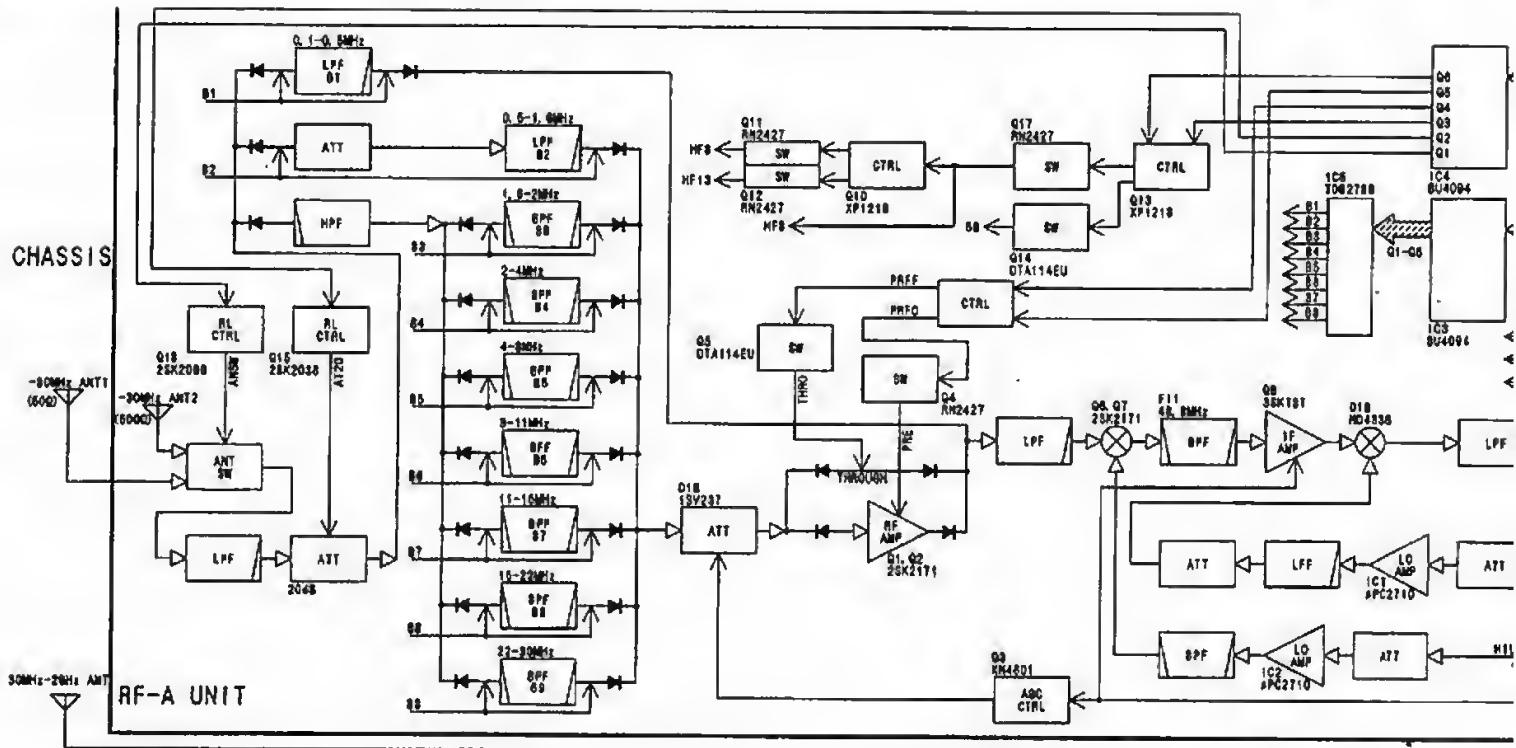
TO MAIN UNIT J2

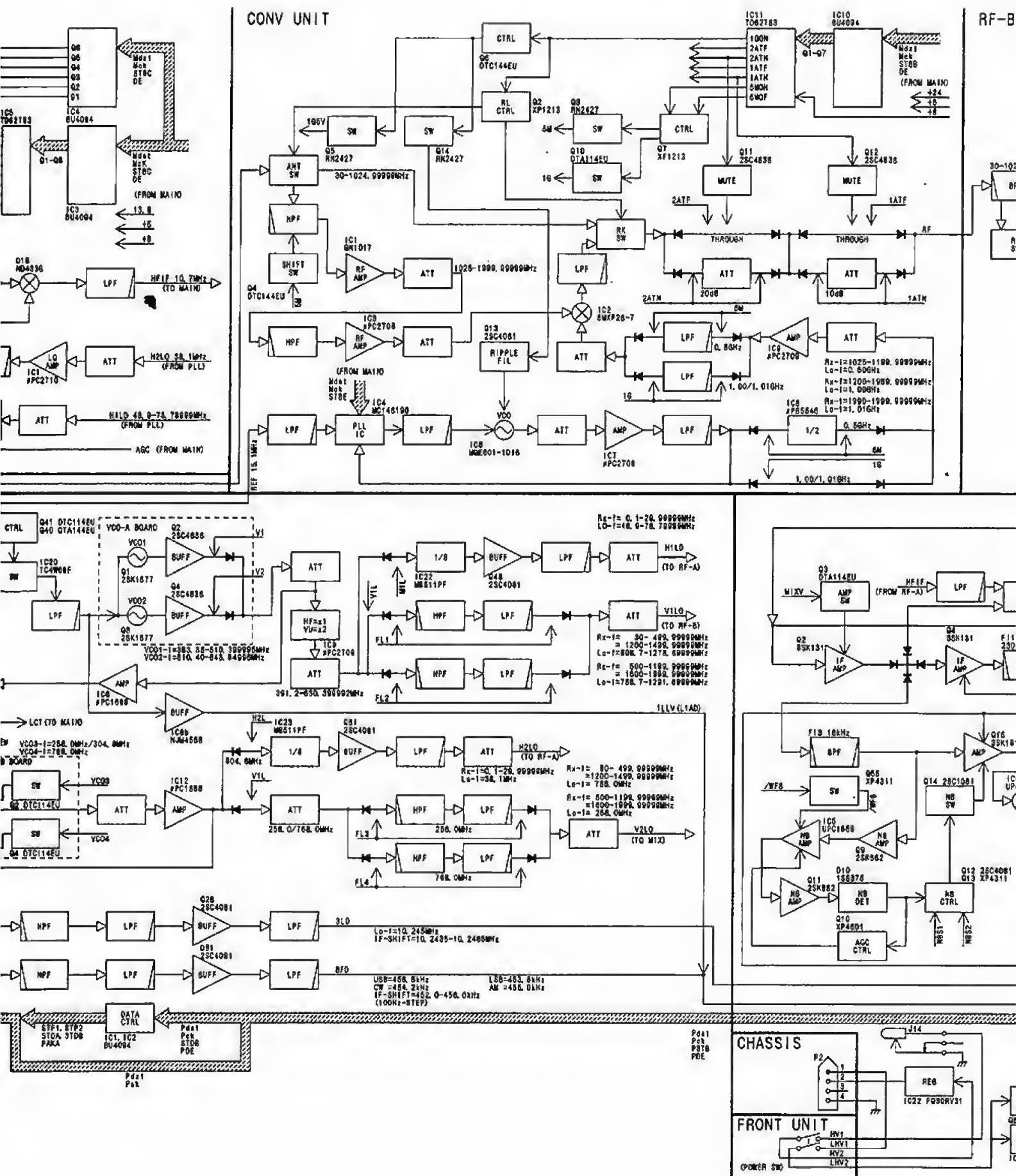
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• CONV UNIT

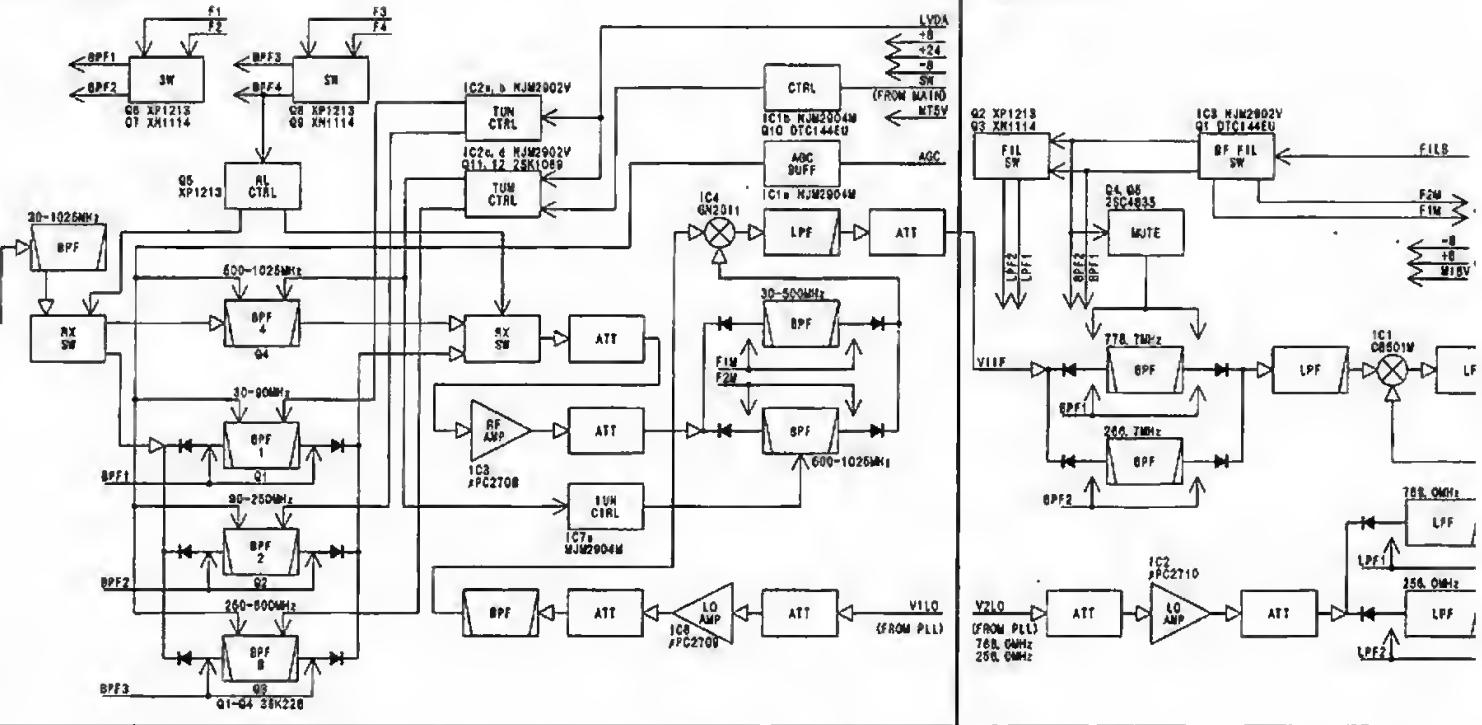


## SECTION 10 BLOCK DIAGRAM

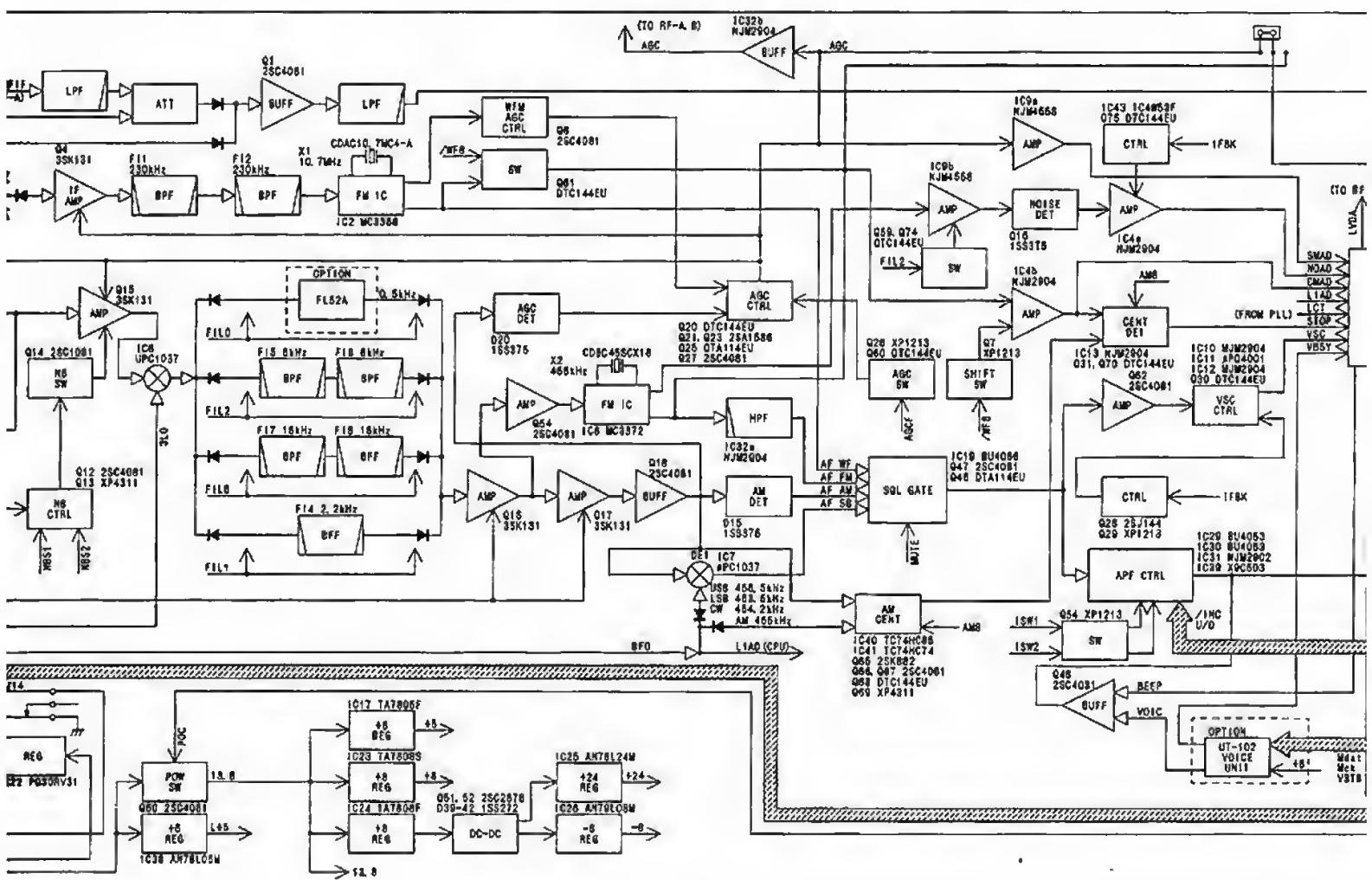


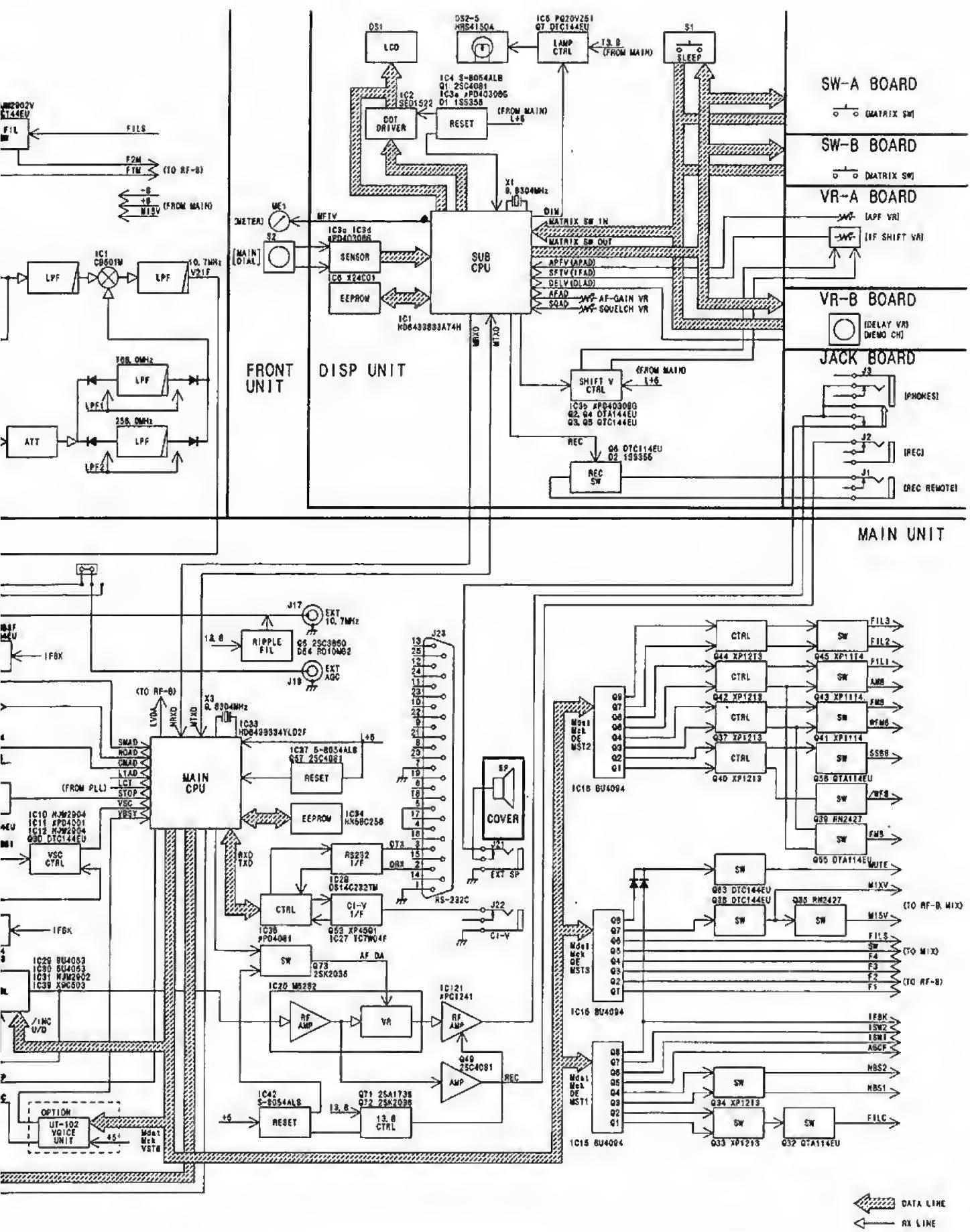


## RF-B UNIT

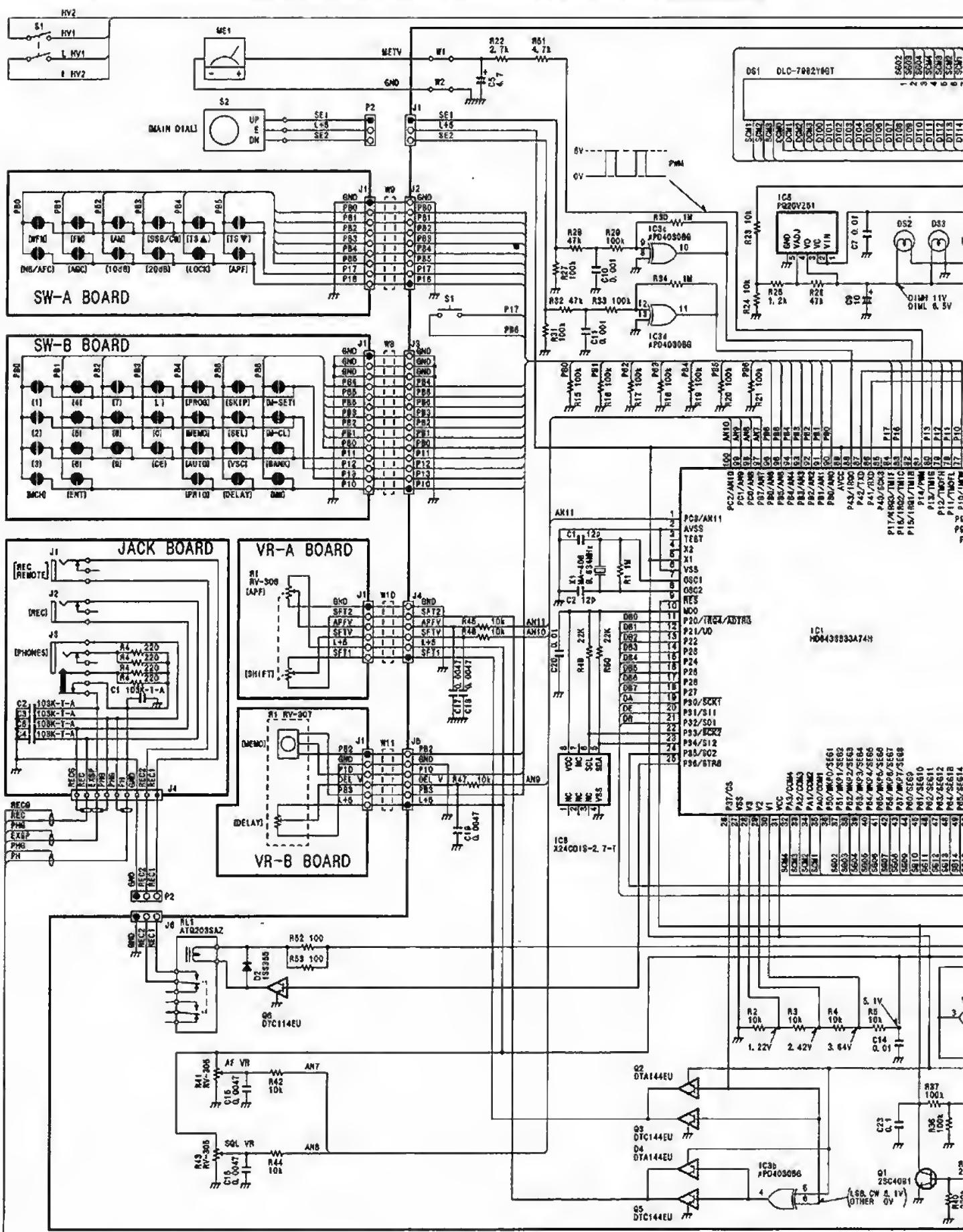


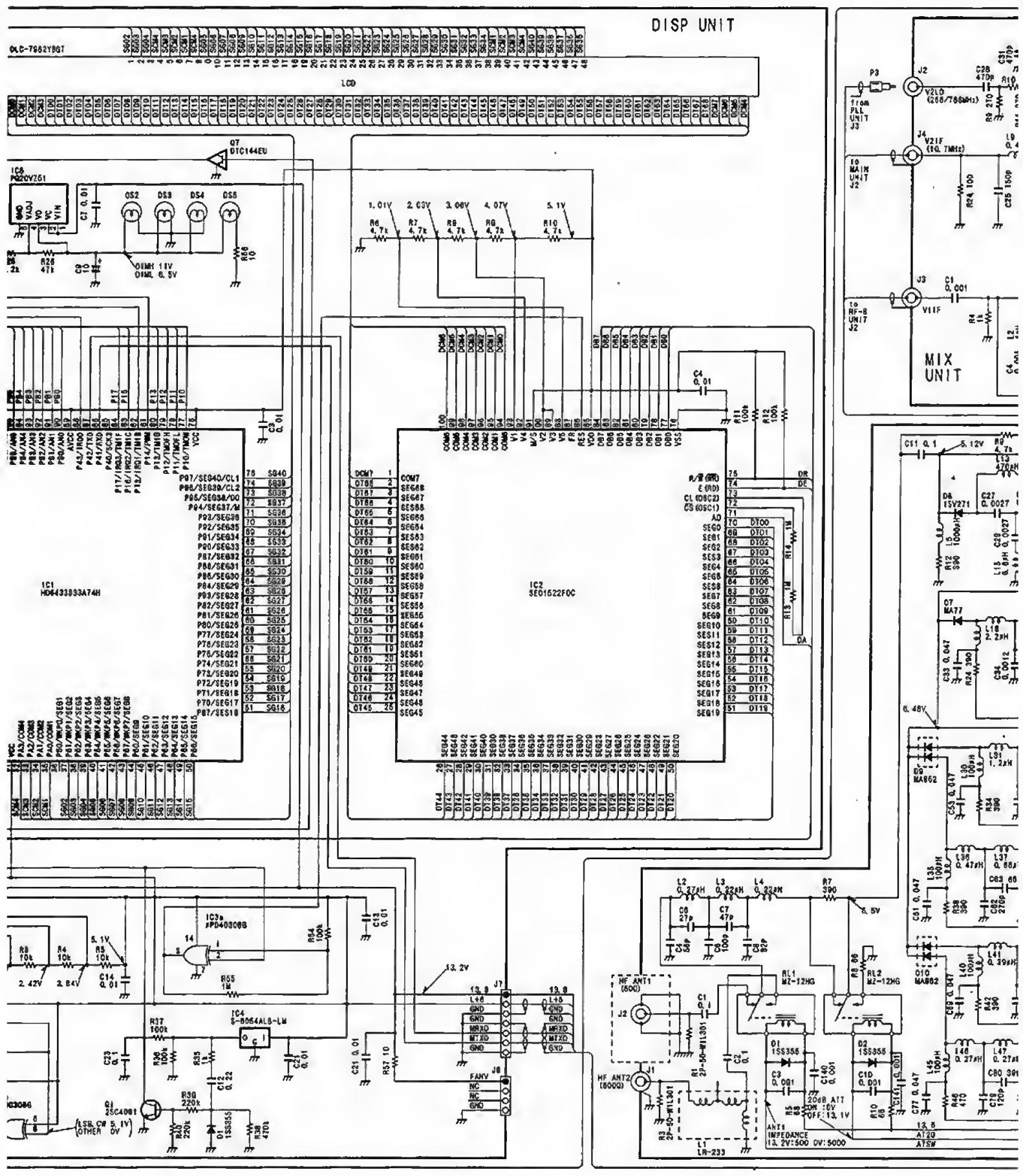
## MIX UNIT

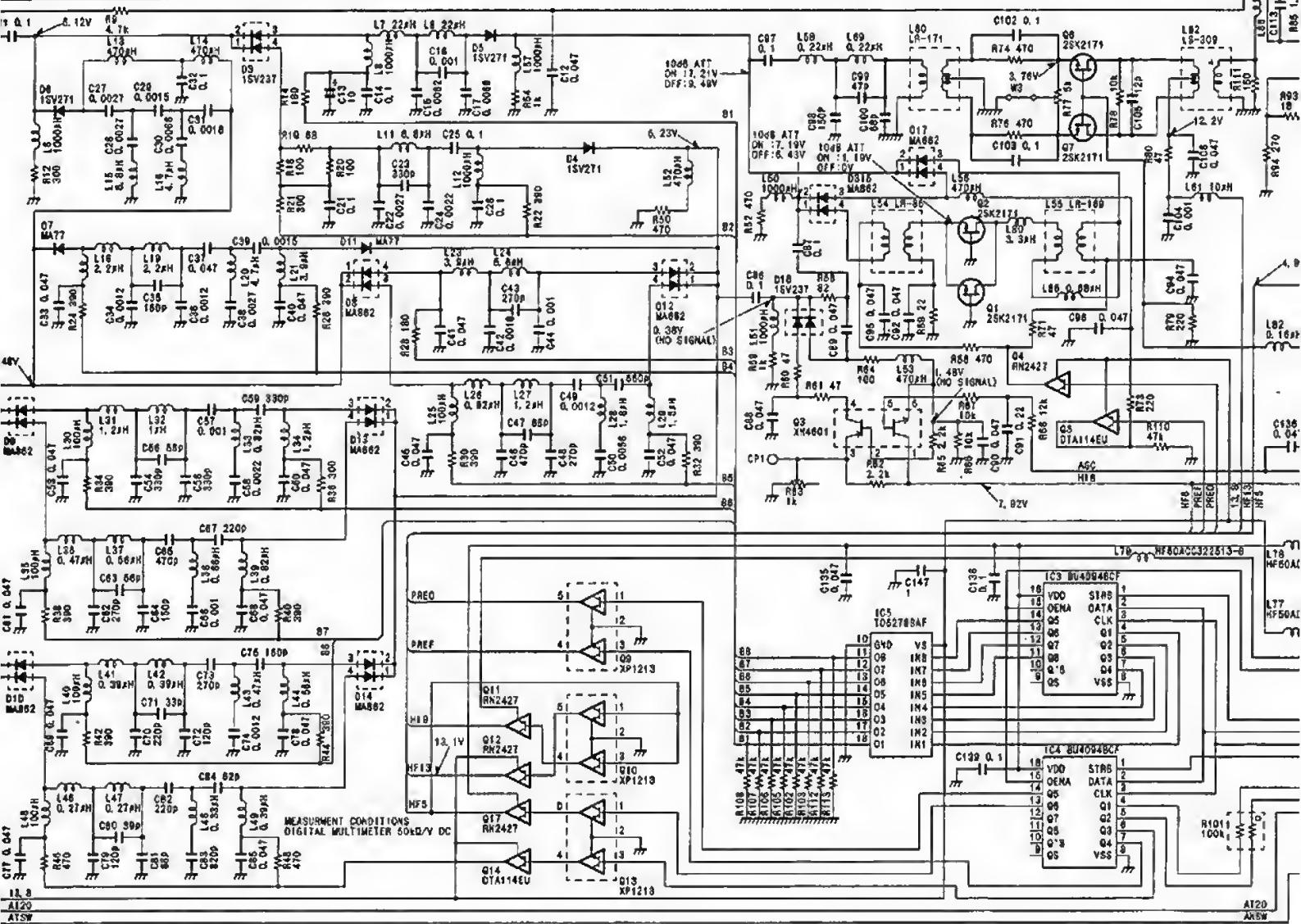
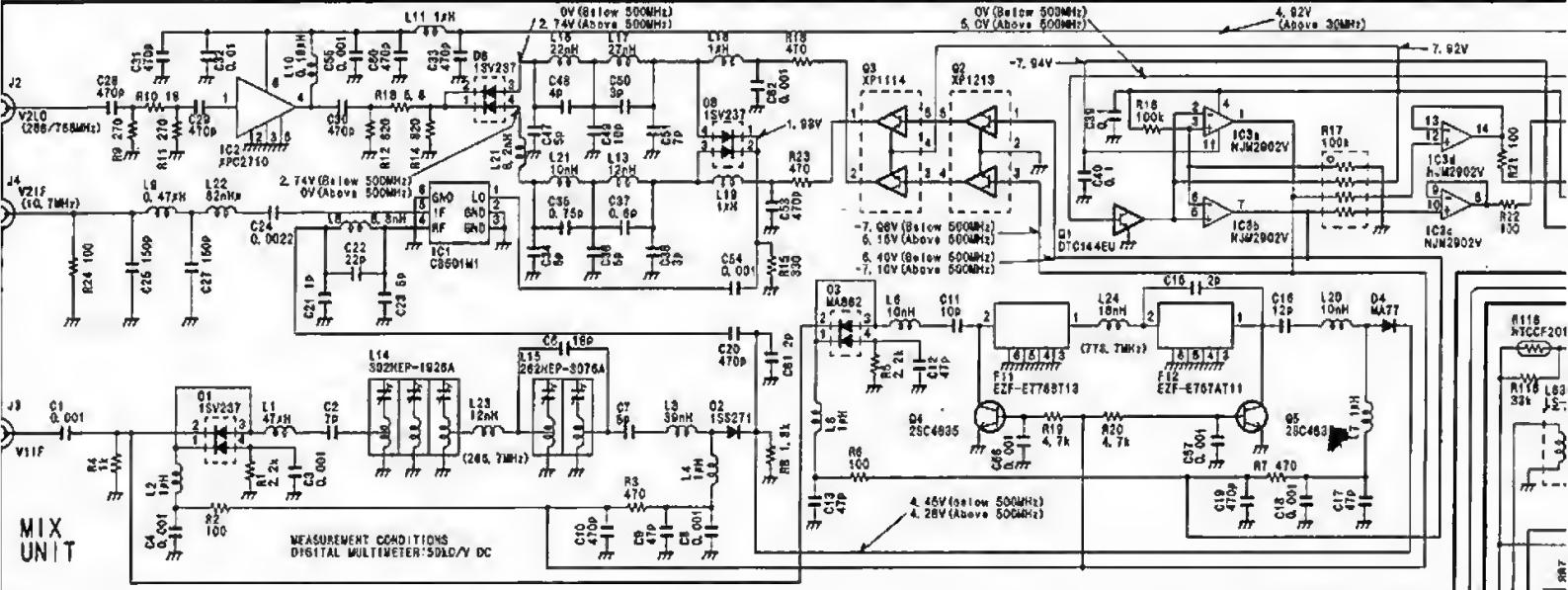




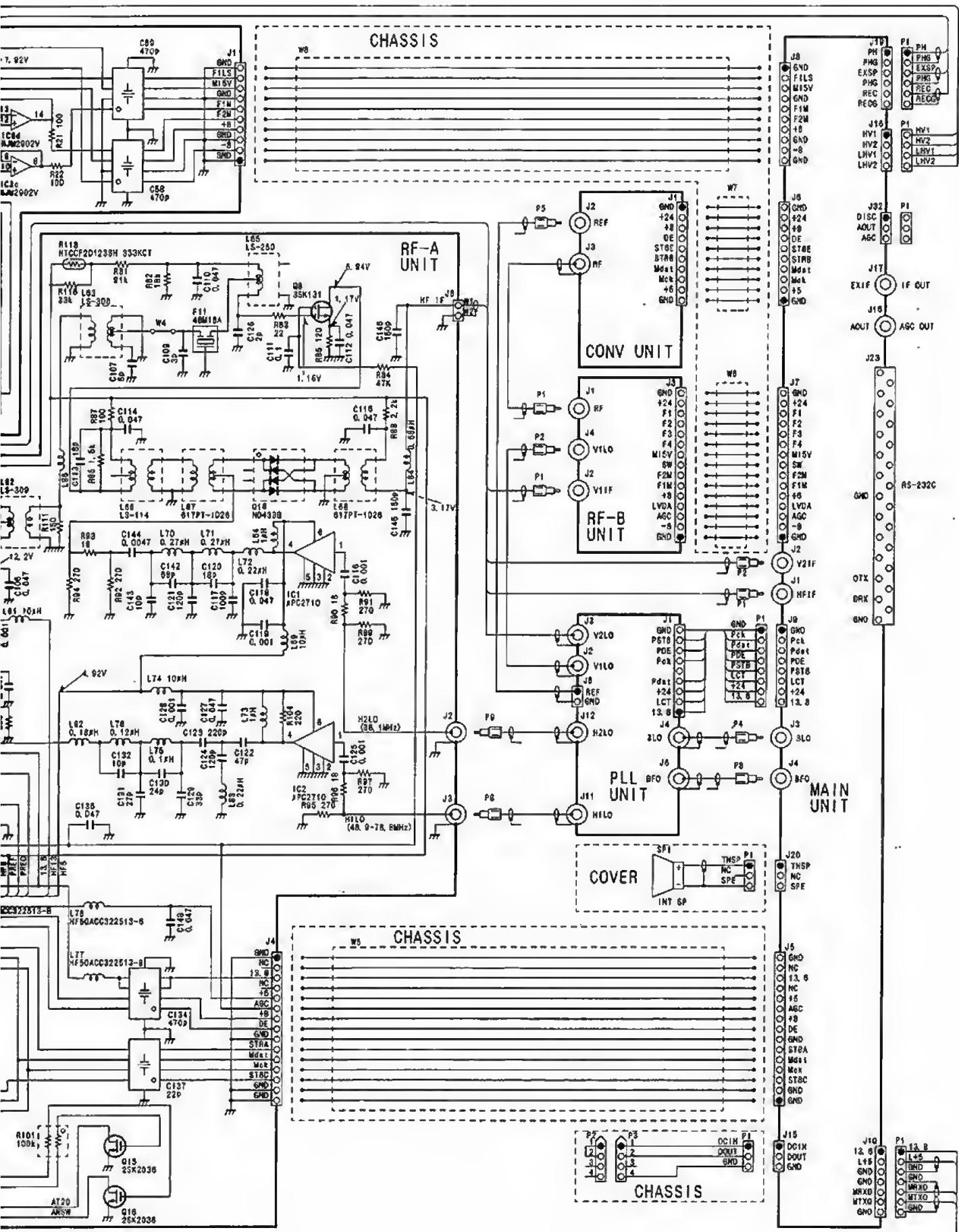
## SECTION 11 VOLTAGE DIAGRAM

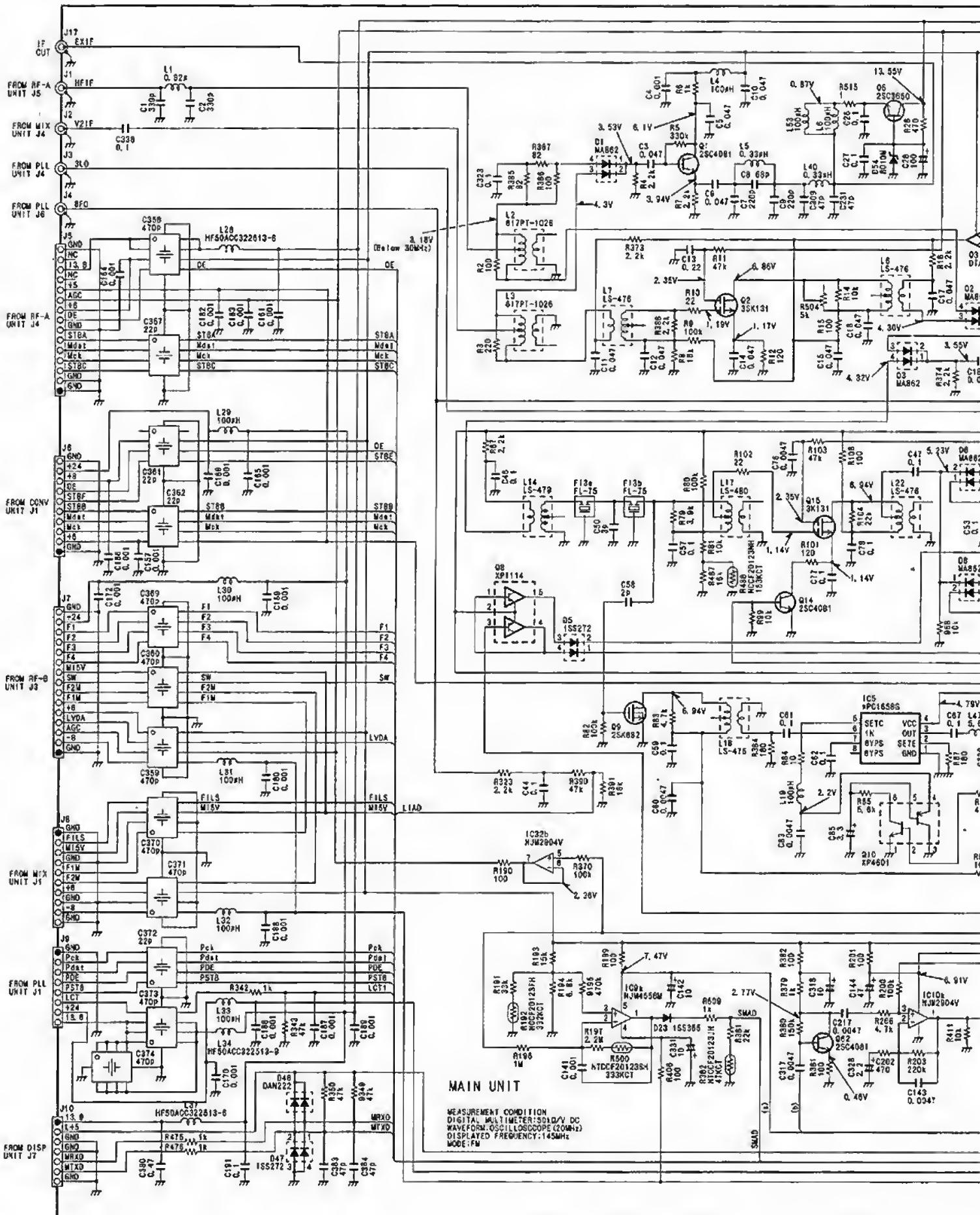


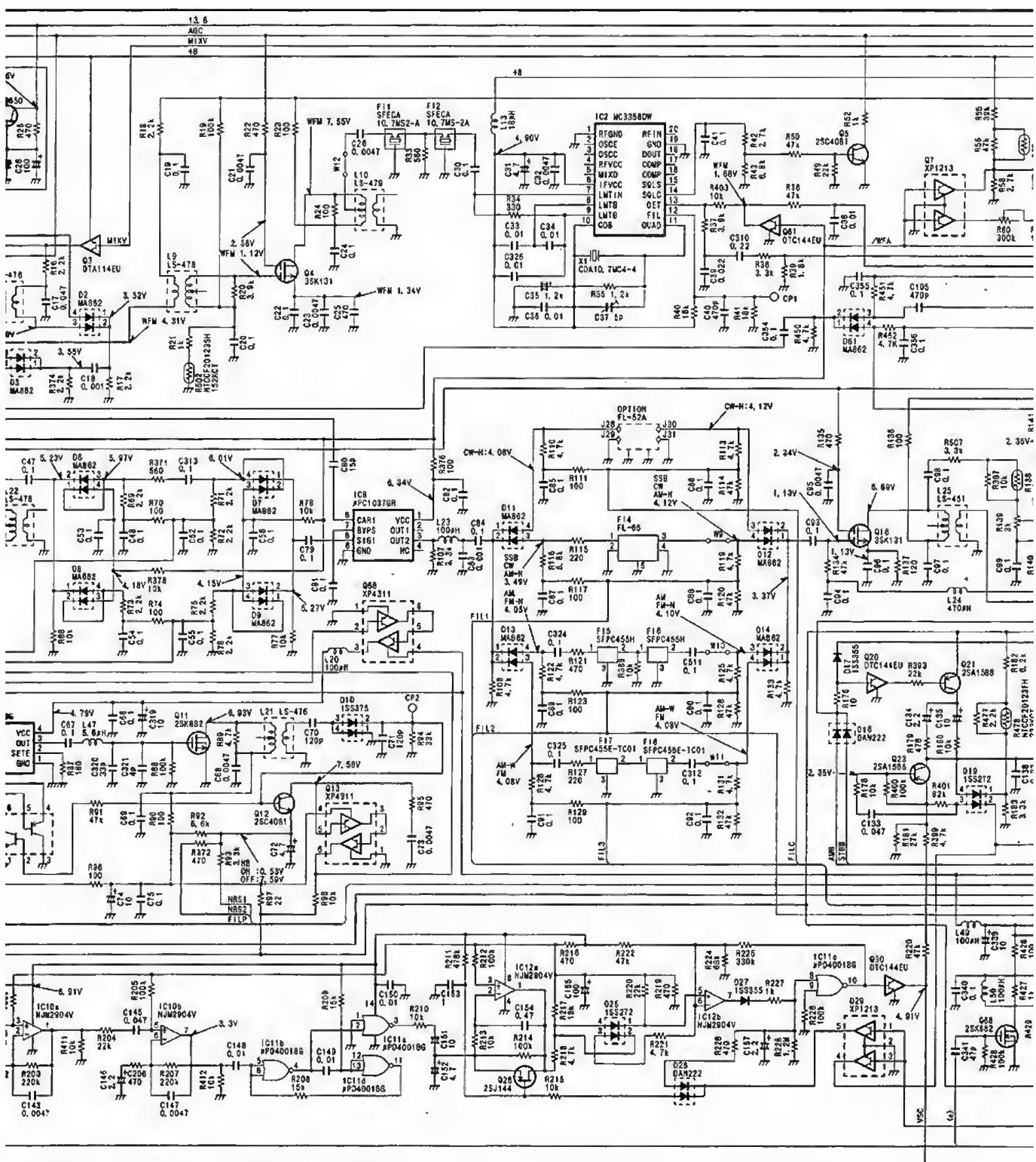


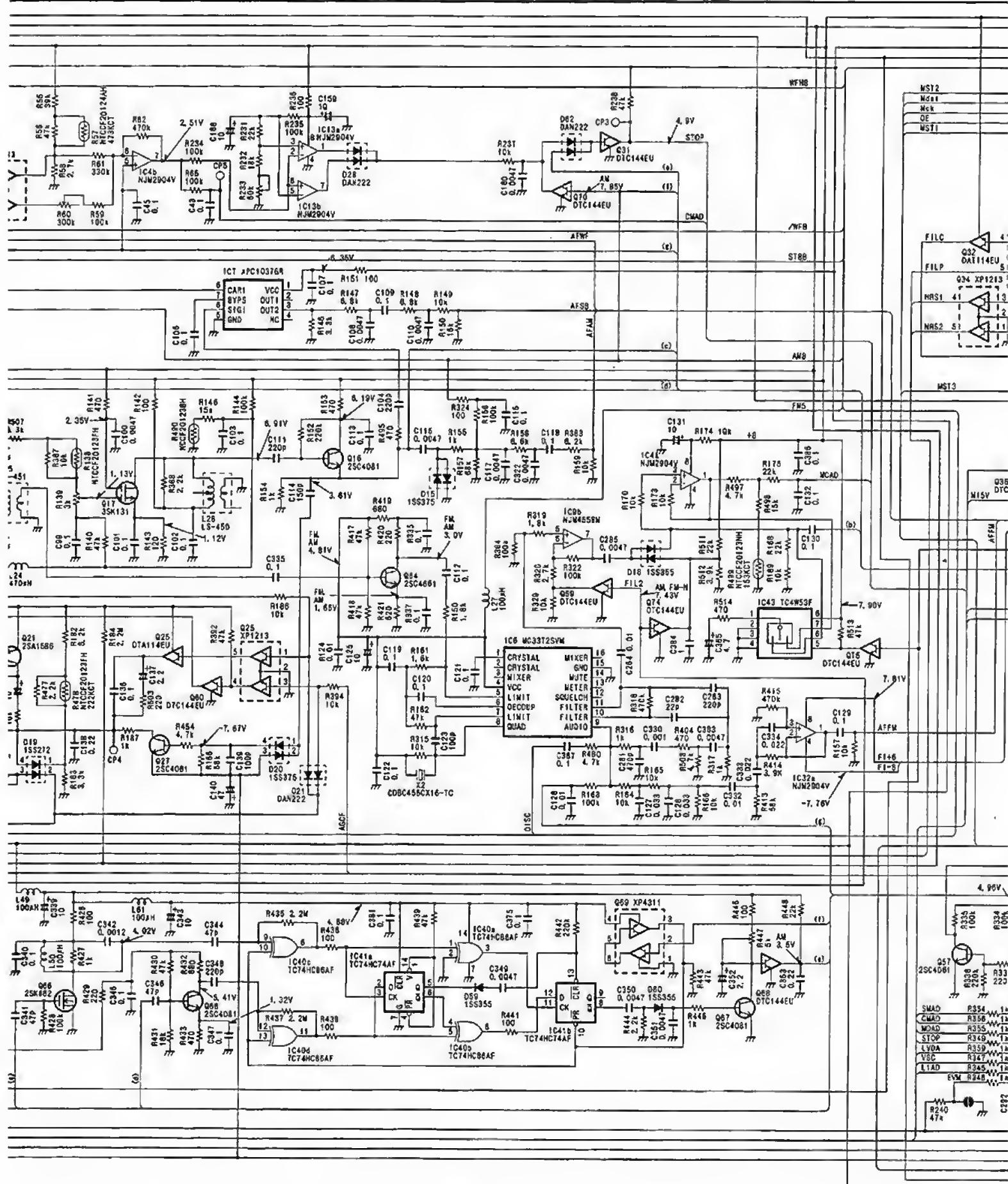


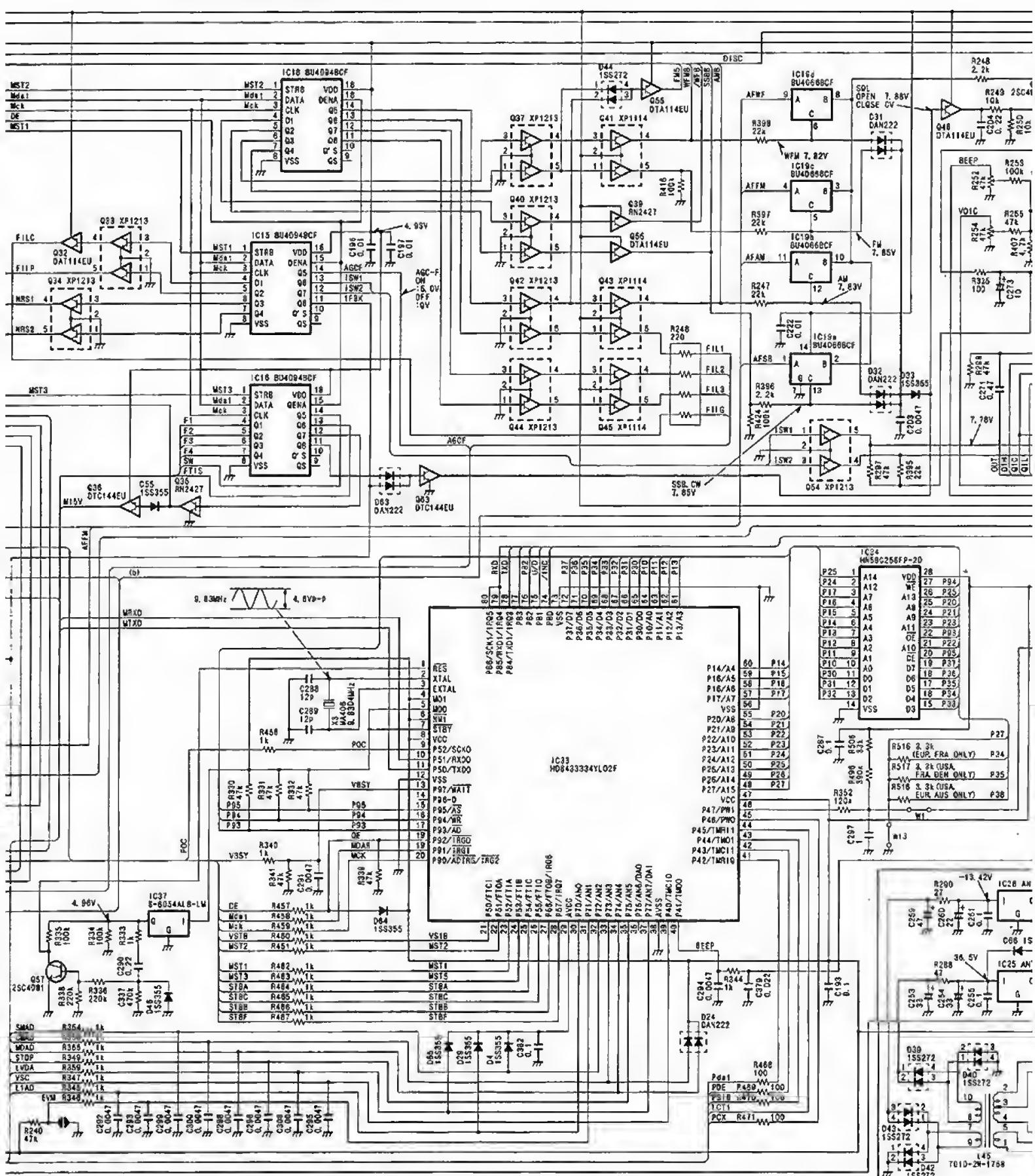
30  
11.3  
AI20  
ATSW

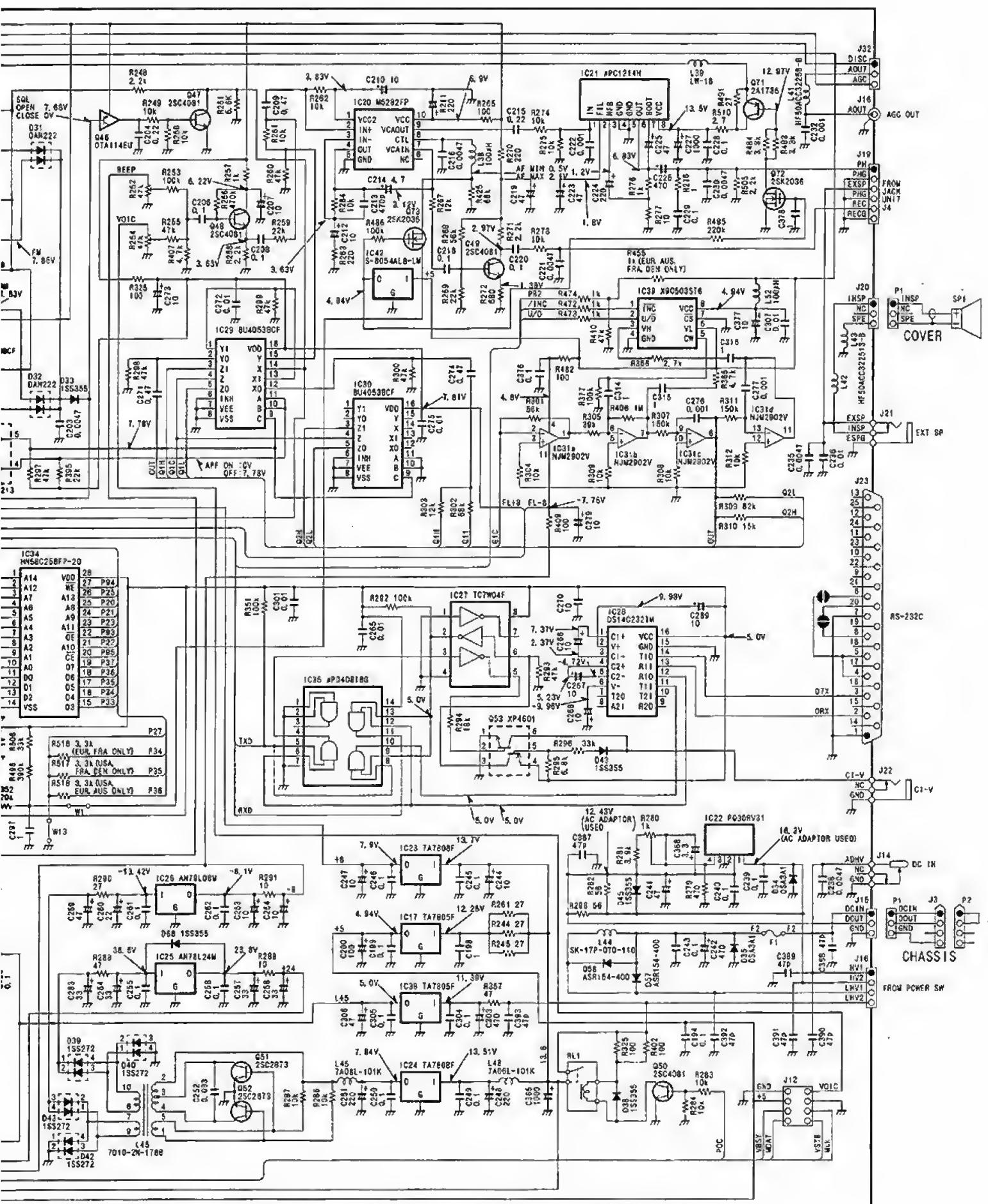


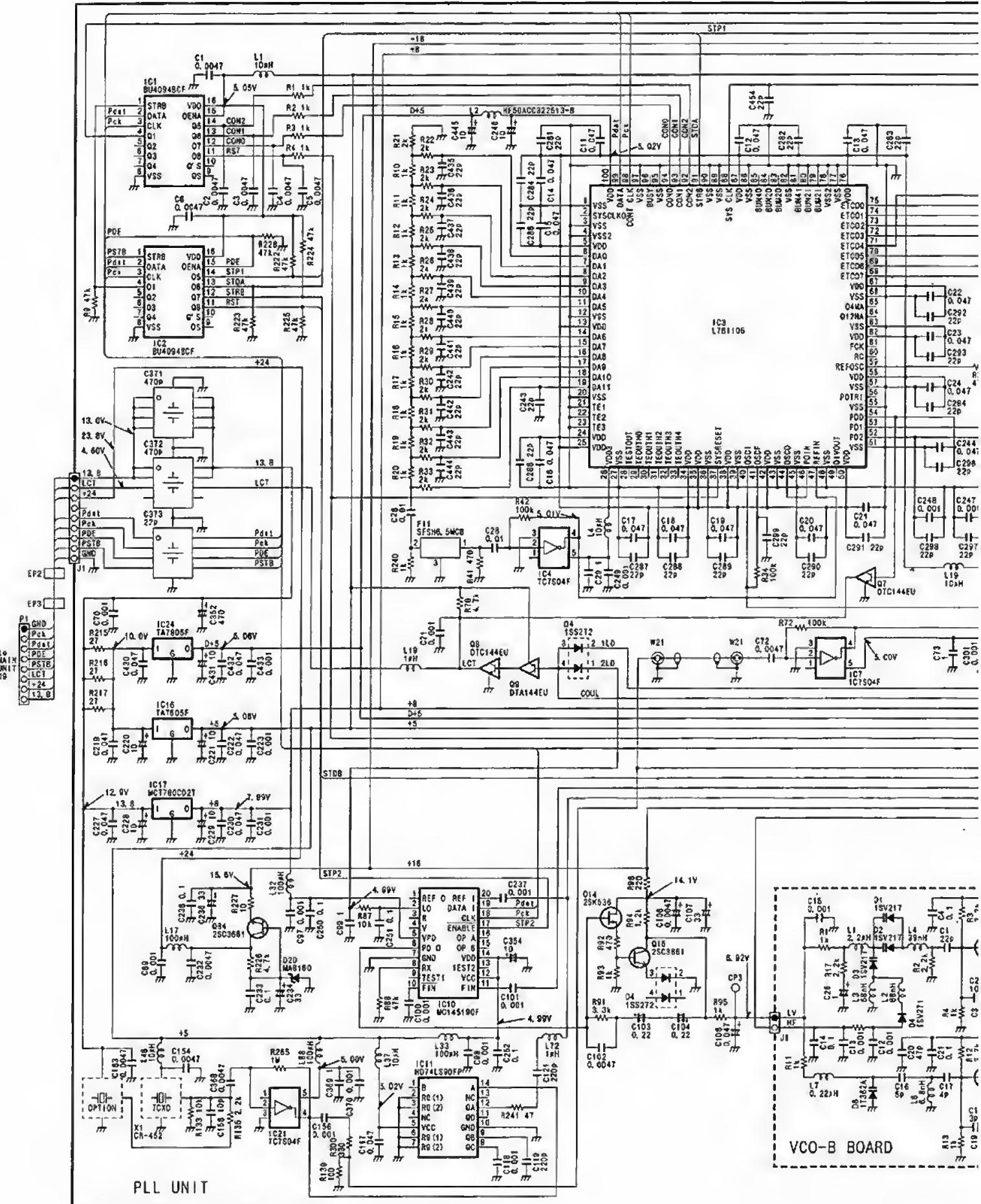


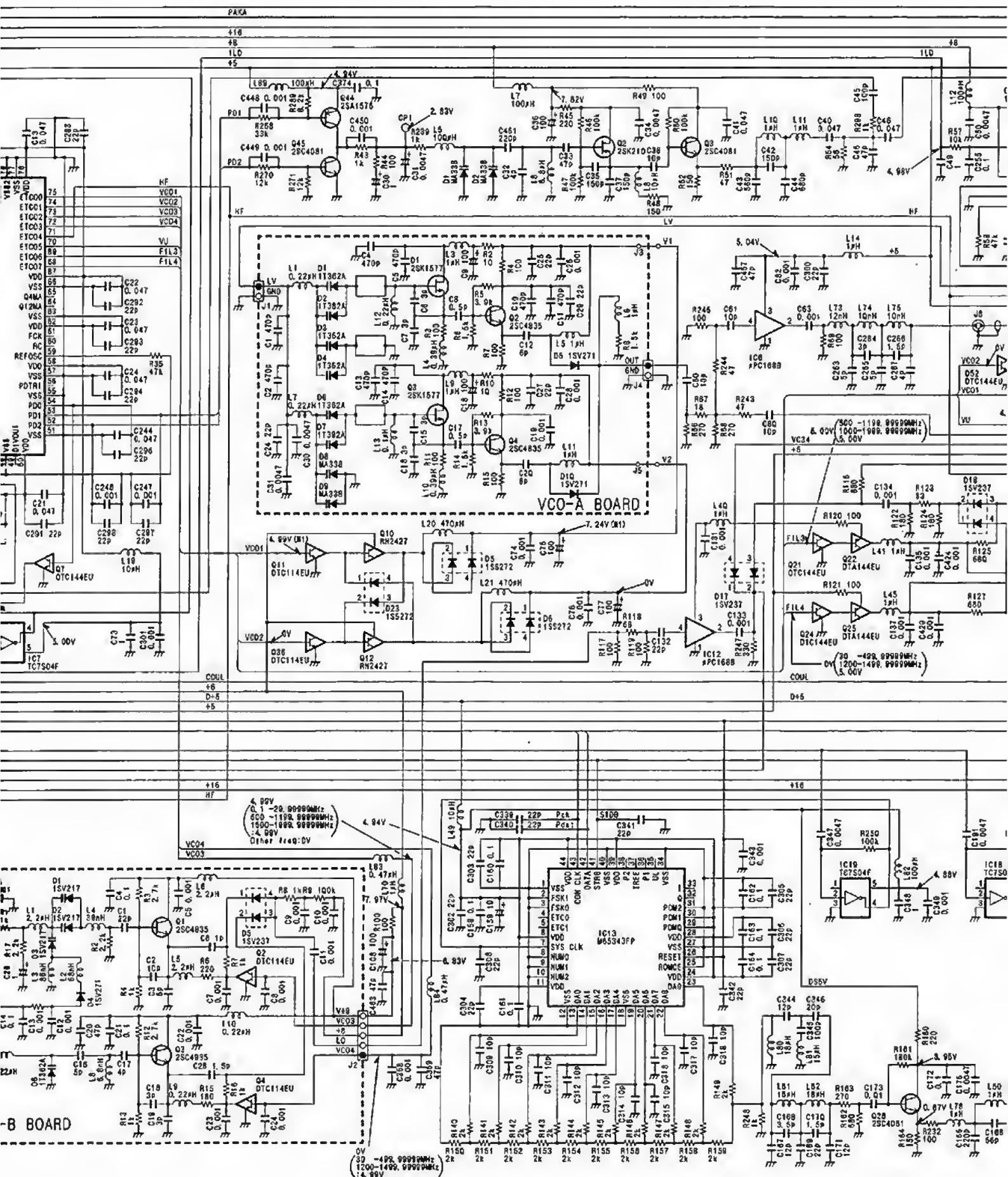


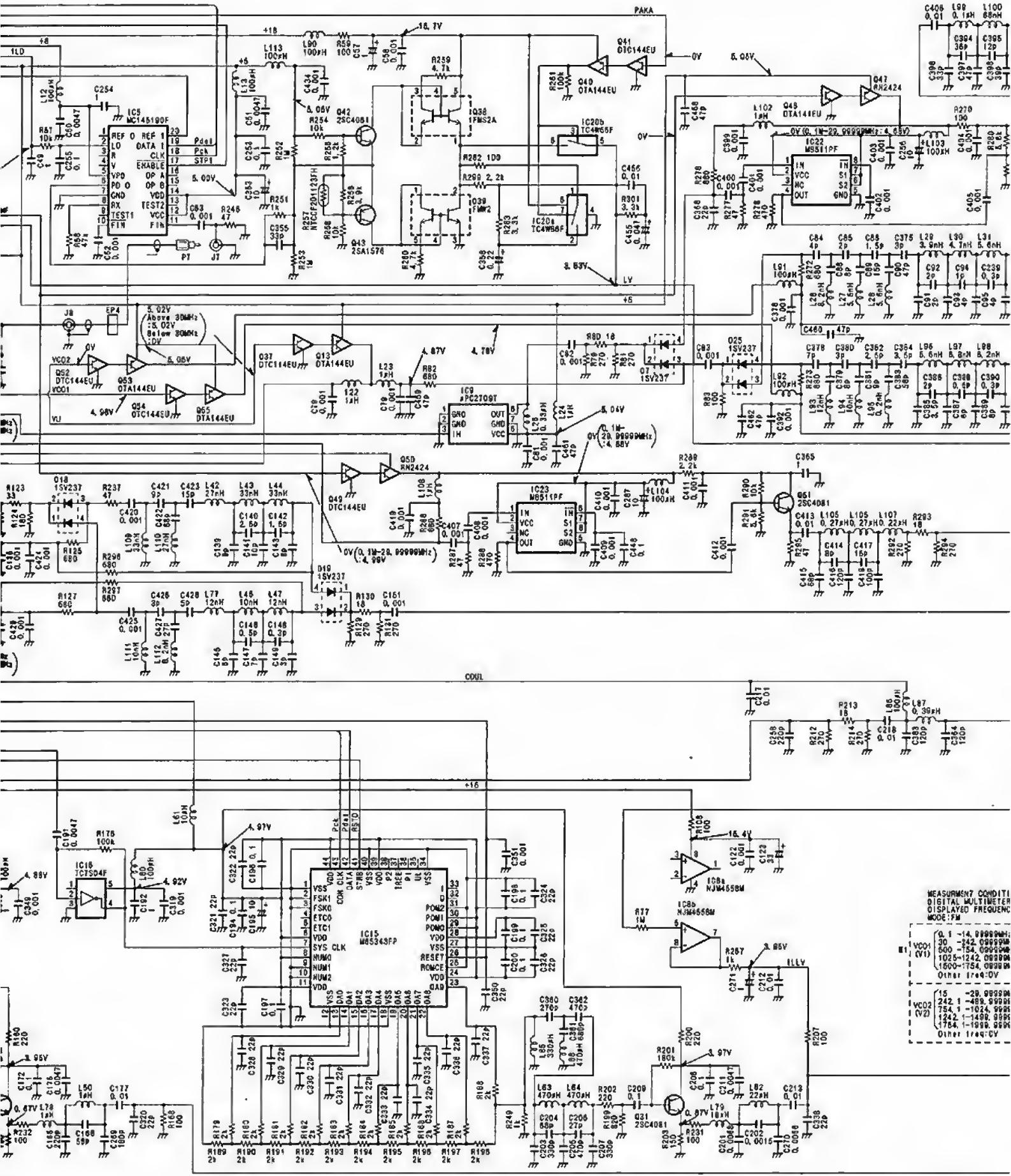


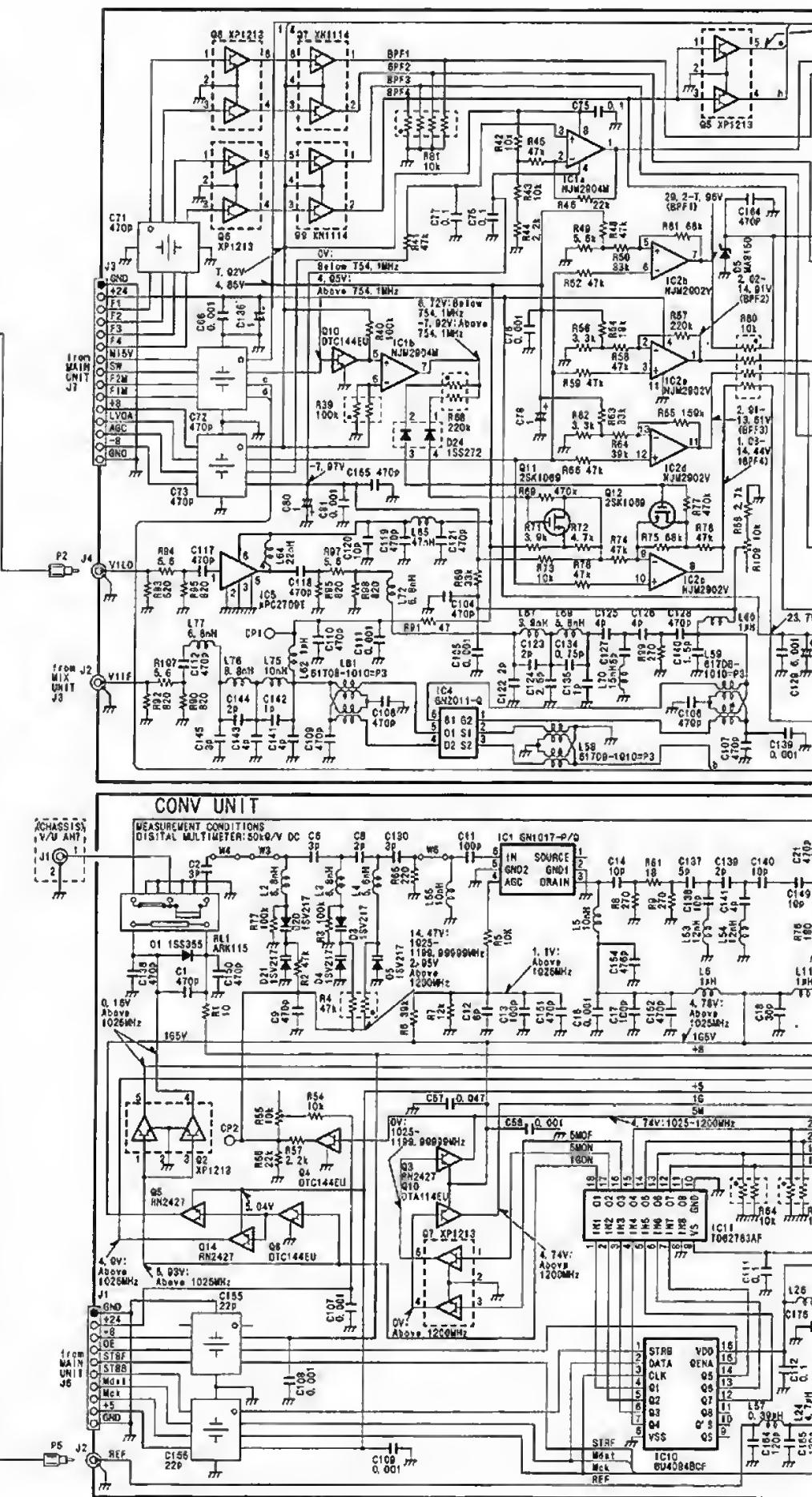
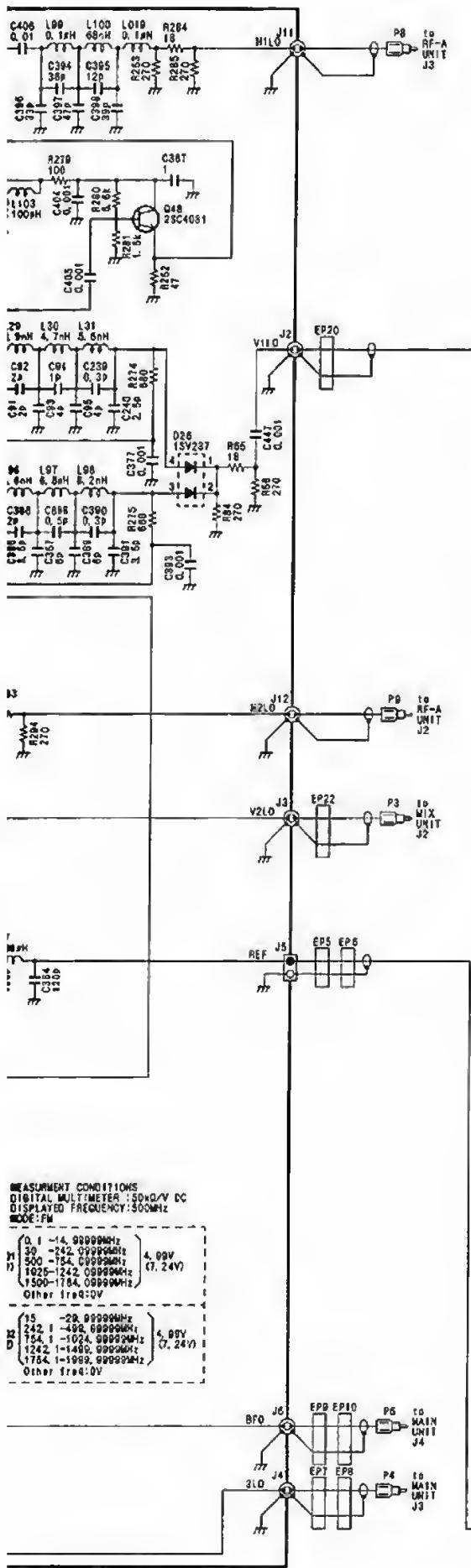


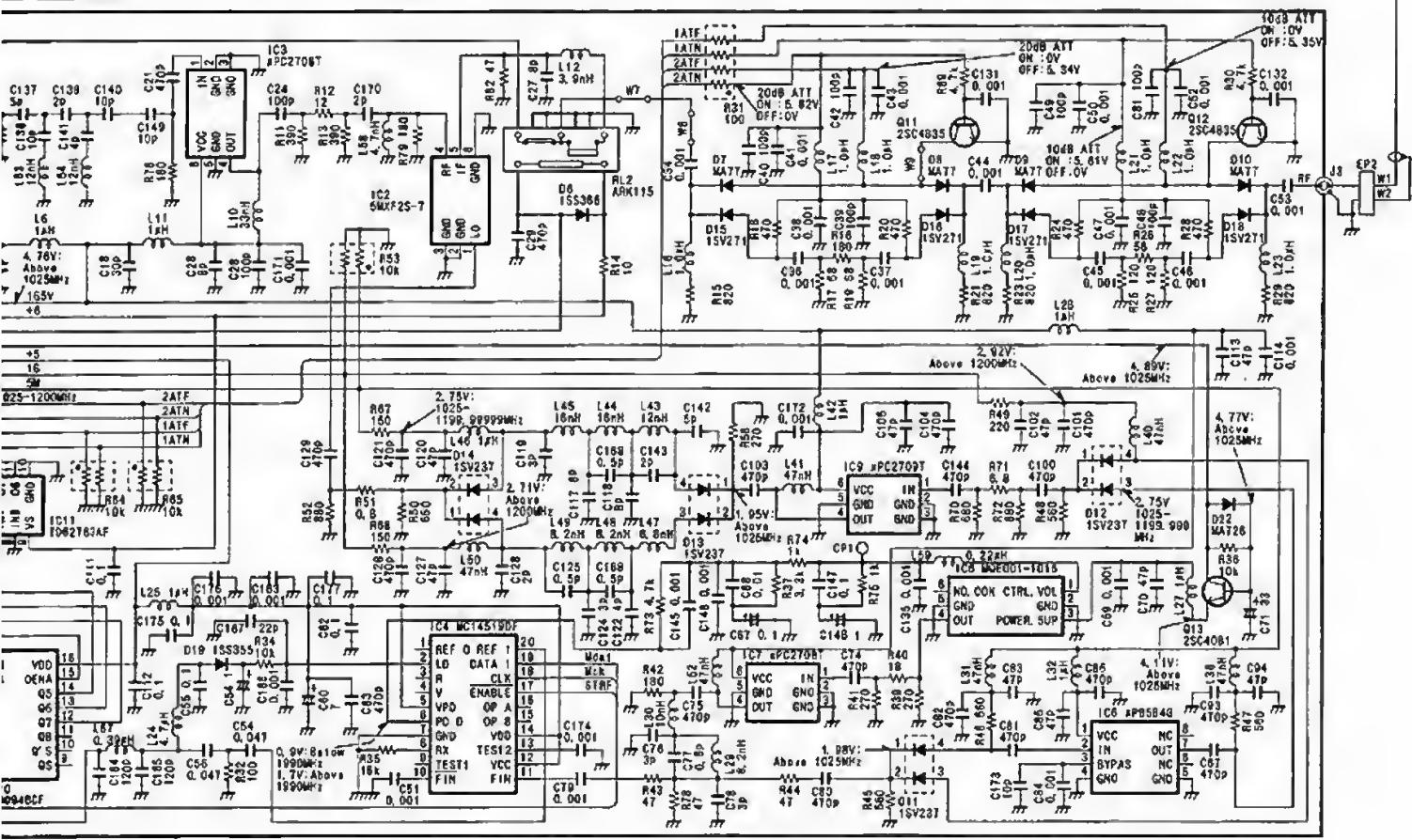
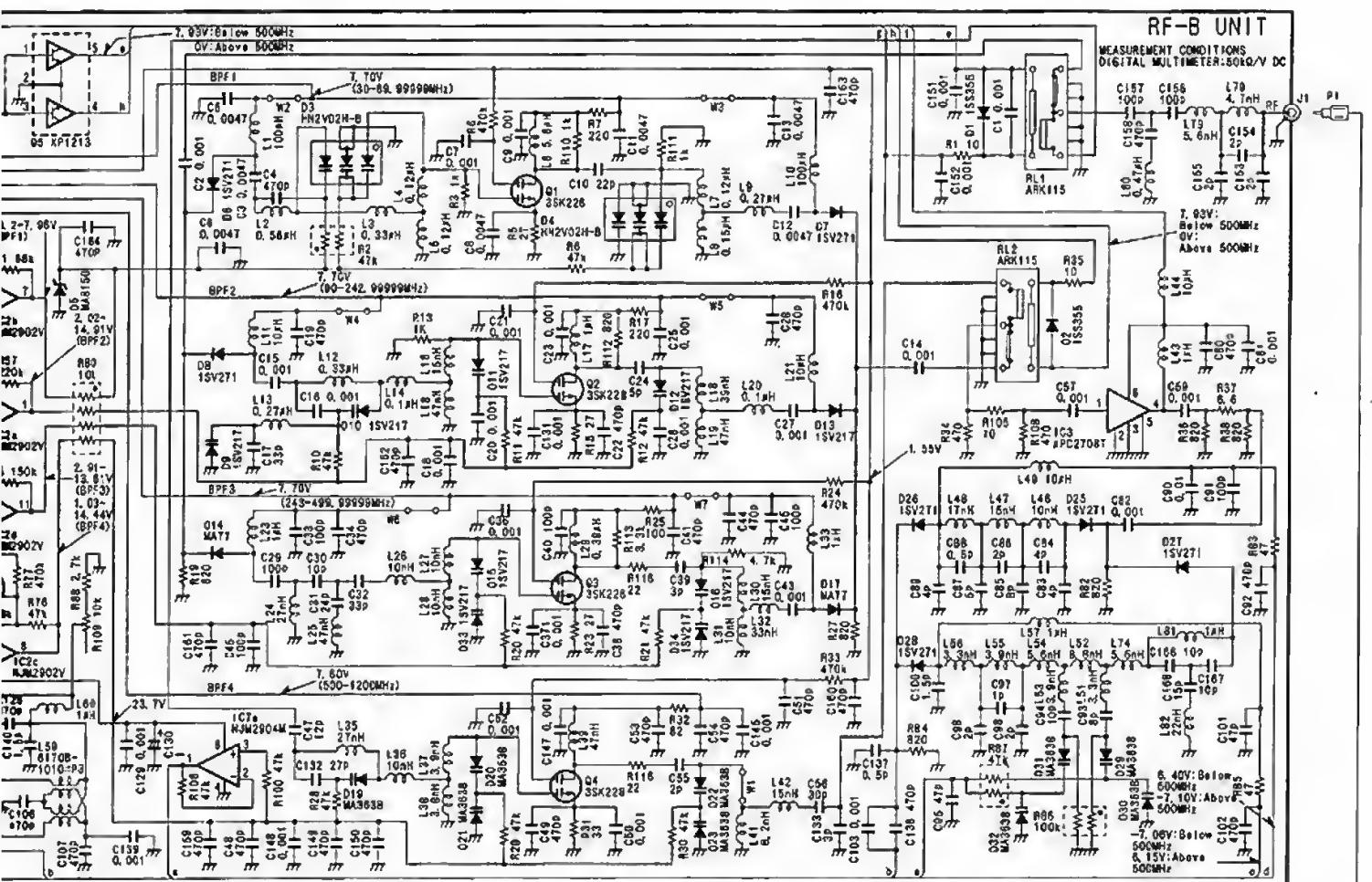












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